

**STATE OF UTAH**  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

FORM 3

AMENDED REPORT



<b>APPLICATION FOR PERMIT TO DRILL</b>						<b>1. WELL NAME and NUMBER</b> 13H-13-45 BTR							
<b>2. TYPE OF WORK</b> DRILL NEW WELL <input checked="" type="checkbox"/> REENTER P&A WELL <input type="checkbox"/> DEEPEN WELL <input type="checkbox"/>						<b>3. FIELD OR WILDCAT</b> DUCHESNE							
<b>4. TYPE OF WELL</b> Oil Well Coalbed Methane Well: NO						<b>5. UNIT or COMMUNITIZATION AGREEMENT NAME</b>							
<b>6. NAME OF OPERATOR</b> BILL BARRETT CORP						<b>7. OPERATOR PHONE</b> 303 312-8164							
<b>8. ADDRESS OF OPERATOR</b> 1099 18th Street Ste 2300, Denver, CO, 80202						<b>9. OPERATOR E-MAIL</b> BHilgers@billbarrettcorp.com							
<b>10. MINERAL LEASE NUMBER (FEDERAL, INDIAN, OR STATE)</b> 2OG0005608			<b>11. MINERAL OWNERSHIP</b> FEDERAL <input type="checkbox"/> INDIAN <input checked="" type="checkbox"/> STATE <input type="checkbox"/> FEE <input type="checkbox"/>			<b>12. SURFACE OWNERSHIP</b> FEDERAL <input type="checkbox"/> INDIAN <input checked="" type="checkbox"/> STATE <input type="checkbox"/> FEE <input type="checkbox"/>							
<b>13. NAME OF SURFACE OWNER (if box 12 = 'fee')</b>						<b>14. SURFACE OWNER PHONE (if box 12 = 'fee')</b>							
<b>15. ADDRESS OF SURFACE OWNER (if box 12 = 'fee')</b>						<b>16. SURFACE OWNER E-MAIL (if box 12 = 'fee')</b>							
<b>17. INDIAN ALLOTTEE OR TRIBE NAME (if box 12 = 'INDIAN')</b> Uintah and Ouray			<b>18. INTEND TO COMMINGLE PRODUCTION FROM MULTIPLE FORMATIONS</b> YES <input type="checkbox"/> (Submit Commingling Application) NO <input checked="" type="checkbox"/>			<b>19. SLANT</b> VERTICAL <input type="checkbox"/> DIRECTIONAL <input type="checkbox"/> HORIZONTAL <input checked="" type="checkbox"/>							
<b>20. LOCATION OF WELL</b>		<b>FOOTAGES</b>		<b>QTR-QTR</b>		<b>SECTION</b>		<b>TOWNSHIP</b>		<b>RANGE</b>		<b>MERIDIAN</b>	
LOCATION AT SURFACE		617 FSL 854 FEL		SESE		13		4.0 S		5.0 W		U	
Top of Uppermost Producing Zone		667 FSL 1335 FEL		SWSE		13		4.0 S		5.0 W		U	
At Total Depth		810 FSL 700 FWL		SWSW		13		4.0 S		5.0 W		U	
<b>21. COUNTY</b> DUCHESNE				<b>22. DISTANCE TO NEAREST LEASE LINE (Feet)</b> 700				<b>23. NUMBER OF ACRES IN DRILLING UNIT</b> 640					
				<b>25. DISTANCE TO NEAREST WELL IN SAME POOL (Applied For Drilling or Completed)</b> 2592				<b>26. PROPOSED DEPTH</b> MD: 10055 TVD: 6503					
<b>27. ELEVATION - GROUND LEVEL</b> 6042				<b>28. BOND NUMBER</b> LPM8874725				<b>29. SOURCE OF DRILLING WATER / WATER RIGHTS APPROVAL NUMBER IF APPLICABLE</b> 43-180					
<b>Hole, Casing, and Cement Information</b>													
String	Hole Size	Casing Size	Length	Weight	Grade & Thread	Max Mud Wt.	Cement		Sacks	Yield	Weight		
COND	26	16	0 - 80	65.0	Unknown	8.8	No Used		0	0.0	0.0		
SURF	12.25	9.625	0 - 2000	36.0	J-55 ST&C	8.8	Halliburton Light , Type Unknown		280	3.16	11.0		
							Halliburton Premium , Type Unknown		210	1.36	14.8		
I1	8.75	7	0 - 6830	26.0	P-110 LT&C	9.2	Unknown		320	3.14	14.8		
							Unknown		130	1.42	13.5		
L1	6.125	4.5	0 - 10055	11.6	P-110 LT&C	9.5	No Used		0	0.0	0.0		
<b>ATTACHMENTS</b>													
<b>VERIFY THE FOLLOWING ARE ATTACHED IN ACCORDANCE WITH THE UTAH OIL AND GAS CONSERVATION GENERAL RULES</b>													
<input checked="" type="checkbox"/> WELL PLAT OR MAP PREPARED BY LICENSED SURVEYOR OR ENGINEER							<input checked="" type="checkbox"/> COMPLETE DRILLING PLAN						
<input type="checkbox"/> AFFIDAVIT OF STATUS OF SURFACE OWNER AGREEMENT (IF FEE SURFACE)							<input type="checkbox"/> FORM 5. IF OPERATOR IS OTHER THAN THE LEASE OWNER						
<input checked="" type="checkbox"/> DIRECTIONAL SURVEY PLAN (IF DIRECTIONALLY OR HORIZONTALLY DRILLED)							<input checked="" type="checkbox"/> TOPOGRAPHICAL MAP						
<b>NAME</b> Venessa Langmacher					<b>TITLE</b> Senior Permit Analyst					<b>PHONE</b> 303 312-8172			
<b>SIGNATURE</b>					<b>DATE</b> 06/21/2012					<b>EMAIL</b> vlangmacher@billbarrettcorp.com			
<b>API NUMBER ASSIGNED</b> 43013514960000					<b>APPROVAL</b> <div style="text-align: center;">           Permit Manager       </div>								

RECEIVED: July 10, 2012

**DRILLING PLAN**

BILL BARRETT CORPORATION

LC Tribal 13H-13-45

SHL: SE SE, 617' FSL and 854' FEL, Section 13, T4S-R5W

BHL: SW SW, 810' FSL and 700' FWL, Section 13, T4S-R5W

Duchesne Co., UT

Bill Barrett Corporation (BBC) intends to drill a horizontal through the prospective zone within the Uteland Butte.

**1 - 3. Estimated Tops of Geological Markers and Formations Expected to Contain Water, Oil and Gas and Other Minerals**

**HORIZONTAL LEG FORMATION TOPS**

<b><u>Formation</u></b>	<b><u>Depth – MD</u></b>	<b><u>Depth - TVD</u></b>
Green River	2,248'	2,248'
Surface casing	2,000'	2,000'
Mahogany	3,053'	3,053'
TGR3	4,223'	4,223'
Douglas Creek	5,083'	5,083'
3 PT Marker	5,458'	5,458'
Black Shale Facies	6,058'	6,058'
Castle Peak	6,103'	6,102'
*Uteland Butte	6,549'	6,474'
CR1	6,689'	6,532'
TD	10,055'	6,503'

\*PROSPECTIVE PAY

The Uteland Butte CR1 is the primary objective for oil/gas.

Base of Useable Water = 558'

**4. Casing Program**

<b><u>Hole Size</u></b>	<b><u>SETTING DEPTH</u></b>		<b><u>Casing Size</u></b>	<b><u>Casing Weight</u></b>	<b><u>Casing Grade</u></b>	<b><u>Thread</u></b>	<b><u>Condition</u></b>
<b><u>(FROM)</u></b>	<b><u>(TO)</u></b>						
12-1/4"	surface	2,000'	9 5/8"	36.0 ppf	J or K 55	ST&C	New
8 3/4"	surface	6,830'	7"	26.0 ppf	P-110	LT&C	New
6 1/8"	surface	10,055'	4 1/2" Liner with 4-1/2" Tieback for frac	11.6 ppf	P-110	LT&C	New

Drilling Plan  
LC Tribal 13H-13-45  
Duchesne Co., UT

## 5. Cementing Program

9 5/8" Surface Casing	Lead with approximately 280 sx Halliburton Light Premium cement with additives mixed at 11.0 ppg (yield = 3.16 ft <sup>3</sup> /sx). TOC @ Surface Tail with 210 sx Premium 14.8 ppg (yield = 1.36 ft <sup>3</sup> /sx) calculated hole volume with 75% excess. TOC @ 1,500' Top out cement, if required: 100 sx of Premium cement with additives mixed at 15.8 ppg (yield = 1.17 ft <sup>3</sup> /sk)
7" Intermediate Casing	Lead with approximately 320 sx Tune Light cement with additives, mixed at 11.0 ppg (yield = 3.14 ft <sup>3</sup> /sx). TOC @ 1,500' Tail with approximately 130 sx Halliburton Econocem cement with additives mixed at 13.5 ppg (yield = 1.42 ft <sup>3</sup> /sx). TOC @ 5,073'
4 1/2" Liner with 4-1/2" Tieback to surface	The liner will either be cemented with 300 sx 13.5 ppg Econocem from TD to the TOL or uncemented with 14-16 open hole packers.
Note: Top of Tail cement for the intermediate string will be calculated to 1000' above the KOP using gauge hole plus 50% excess. Lead to 200' inside of surface casing.	

## 6. Mud Program

<u>Interval</u>	<u>Weight</u>	<u>Viscosity</u>	<u>Fluid Loss (API filtrate)</u>	<u>Remarks</u>
40' – 2,000'	8.4 – 8.8	26 – 36	NC	Freshwater Spud Mud Fluid System
2,000' – 6,830'	8.9 – 9.2	26 - 36	NC	Fresh Water with sweeps
6,830' – TD	9.0 – 9.5	45 – 58	4 – 10	Fresh Water PHPA
Note: Sufficient mud materials to maintain mud properties, control lost circulation and to contain "kicks" will be available at wellsite. BBC may require minor amounts of diesel to be added to its fluid system in order to reduce torque and drag.				

## 7. BOP and Pressure Containment Data

<u>Depth Intervals</u>	<u>BOP Equipment</u>
0 – 2,000'	No pressure control required
2,000' – TD	11" 5000# Ram Type BOP 11" 5000# Annular BOP
- Drilling spool to accommodate choke and kill lines;	
- Ancillary and choke manifold to be rated @ 5000 psi;	
- Ancillary equipment and choke manifold rated at 5,000#. All BOP and BOPE tests will be in accordance with the requirements of onshore Order No. 2;	
- The BLM and the State of Utah Division of Oil, Gas and Mining will be notified 24 hours in advance of all BOP pressure tests.	
- BOP hand wheels may be underneath the sub-structure of the rig if the drilling rig used is set up to operate most efficiently in this manner.	

Drilling Plan  
LC Tribal 13H-13-45  
Duchesne Co., UT

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**8. Auxiliary Equipment**

- a) Upper kelly cock; lower Kelly cock will be installed while drilling
- b) Inside BOP or stab-in valve (available on rig floor)
- c) Safety valve(s) and subs to fit all string connections in use
- d) Mud monitoring will be visually observed

**9. Testing, Logging and Core Programs**

Cores	None anticipated;
Testing	None anticipated; drill stem tests may be run on shows of interest;
Sampling	30' to 50' samples; surface casing to TD. Preserve samples all show intervals;
Surveys	MWD with GR as needed to land wellbore;
WL Logging	None in intermediate
Note: FMI and CAL may be run on the lateral portion of the horizontal wellbore at the geologist's discretion.	

**10. Anticipated Abnormal Pressures or Temperatures**

No abnormal pressures or temperatures or other hazards are anticipated.

Maximum anticipated bottom hole pressure equals approximately 3212 psi\* and maximum anticipated surface pressure equals approximately 1781 psi\*\* (bottom hole pressure minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot).

\*Max Mud Wt x 0.052 x TD = A (bottom hole pressure)

\*\*Maximum surface pressure = A – (0.22 x TD)

**11. Location and Type of Water Supply**

Water for the drilling and completion will be trucked from the Duchesne City Culinary Water Dock located in Sec. 1, T4S, R5W.

**12. Drilling Schedule**

Location Construction: June 2013  
Spud: June 2013  
Duration: 25 days drilling time  
25 days completion time

**T4S, R5W, U.S.B.&M.****BILL BARRETT CORPORATION**

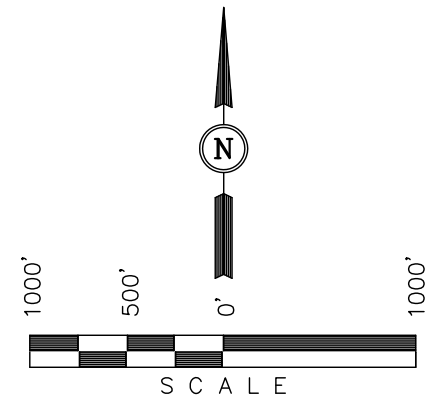
Well location, #13H-13-45 BTR, located as shown in the SE 1/4 SE 1/4 of Section 13, T4S, R5W, U.S.B.&M., Duchesne County, Utah.

**BASIS OF ELEVATION**

BENCH MARK (M67) LOCATED IN THE SW 1/4 OF SECTION 9, T5S, R4W, U.S.B.&M., TAKEN FROM THE DUCHESNE SE, QUADRANGLE, UTAH, DUCHESNE COUNTY, 7.5 MINUTE QUAD. (TOPOGRAPHIC MAP) PUBLISHED BY THE UNITED STATES DEPARTMENT OF THE INTERIOR, GEOLOGICAL SURVEY. SAID ELEVATION IS MARKED AS BEING 6097 FEET.

**BASIS OF BEARINGS**

BASIS OF BEARINGS IS A G.P.S. OBSERVATION.

**CERTIFICATE**

THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS PREPARED FROM FIELD NOTES OF ACTUAL SURVEYS MADE BY ME OR UNDER MY SUPERVISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

**ROBERT L. KAY**  
REGISTERED LAND SURVEYOR  
REGISTRATION NO. 161319  
STATE OF UTAH  
04-07-12

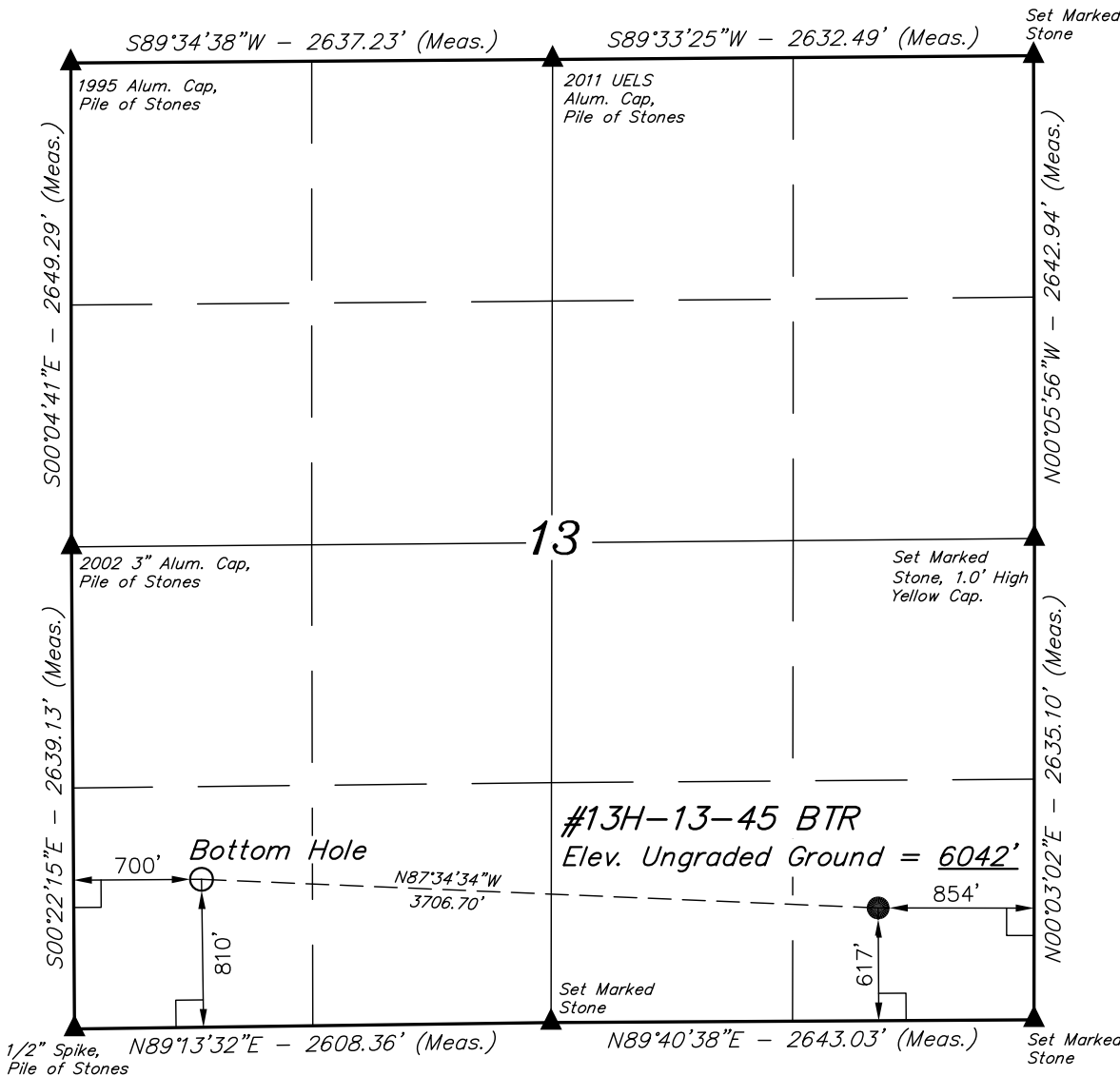
**UINTAH ENGINEERING & LAND SURVEYING**  
**85 SOUTH 200 EAST - VERNAL, UTAH 84078**  
(435) 789-1017

SCALE 1" = 1000'	DATE SURVEYED: 03-26-12	DATE DRAWN: 03-29-12
PARTY T.A. M.M. J.J.	REFERENCES G.L.O. PLAT	
WEATHER WARM	FILE BILL BARRETT CORPORATION	

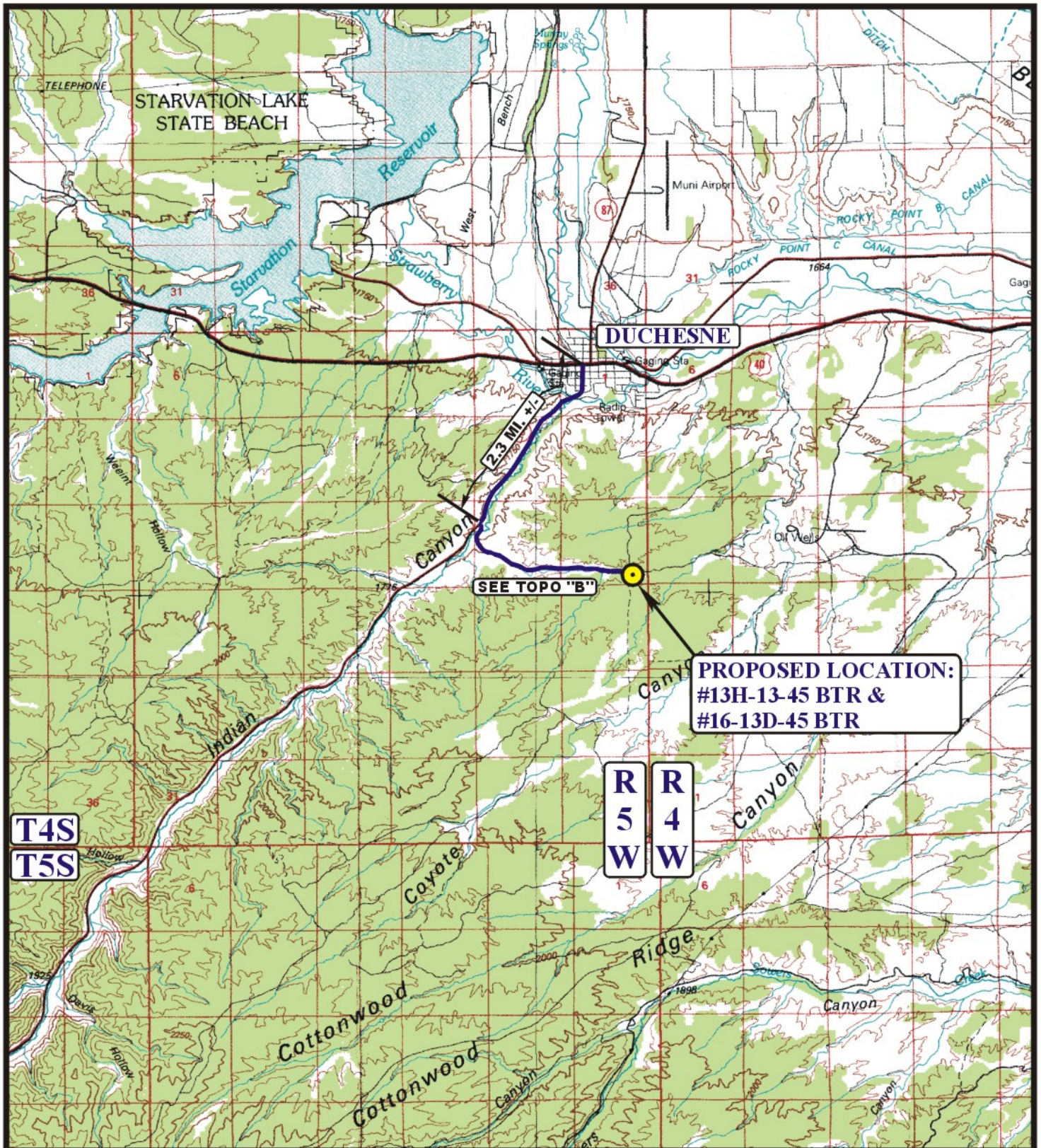
**LEGEND:**

- └─┘ = 90° SYMBOL  
● = PROPOSED WELL HEAD.  
▲ = SECTION CORNERS LOCATED.

NAD 83 (TARGET BOTTOM HOLE)	NAD 83 (SURFACE LOCATION)
LATITUDE = 40°07'41.42" (40.128172)	LATITUDE = 40°07'39.89" (40.127747)
LONGITUDE = 110°24'20.09" (110.405581)	LONGITUDE = 110°23'32.43" (110.392342)
NAD 27 (TARGET BOTTOM HOLE)	NAD 27 (SURFACE LOCATION)
LATITUDE = 40°07'41.57" (40.128214)	LATITUDE = 40°07'40.04" (40.127789)
LONGITUDE = 110°24'17.53" (110.404869)	LONGITUDE = 110°23'29.87" (110.391631)

**RECEIVED: June 21, 2012**





**LEGEND:**

PROPOSED LOCATION



**BILL BARRETT CORPORATION**

**#13H-13-45 BTR & #16-13D-45 BTR  
SECTION 13, T4S, R5W, U.S.B.&M.  
SE 1/4 SE 1/4**



**Uintah Engineering & Land Surveying**  
85 South 200 East Vernal, Utah 84078  
(435) 789-1017 \* FAX (435) 789-1813

**ACCESS ROAD  
MAP**

**05 04 11**  
MONTH DAY YEAR

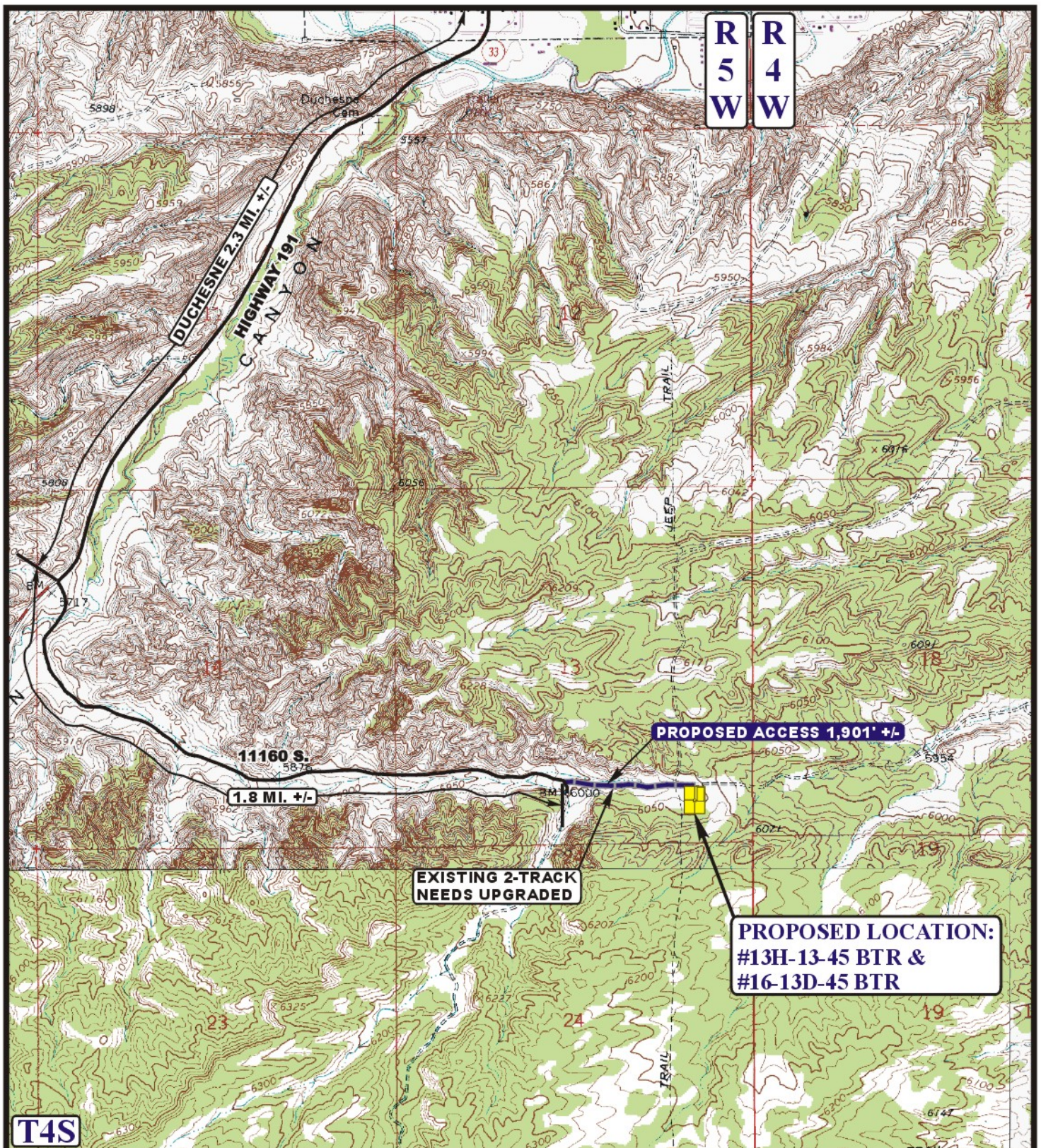
SCALE: 1:100,000

DRAWN BY: S.F.

REV: 04-03-12 C.I.







**LEGEND:**

	EXISTING ROAD
	PROPOSED ACCESS ROAD
	EXISTING 2-TRACK NEEDS UPGRADED



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**BILL BARRETT CORPORATION**

#13H-13-45 BTR & #16-13D-45 BTR  
SECTION 13, T4S, R5W, U.S.B.&M.  
SE 1/4 SE 1/4

ACCESS ROAD  
MAP

05 04 11  
MONTH DAY YEAR

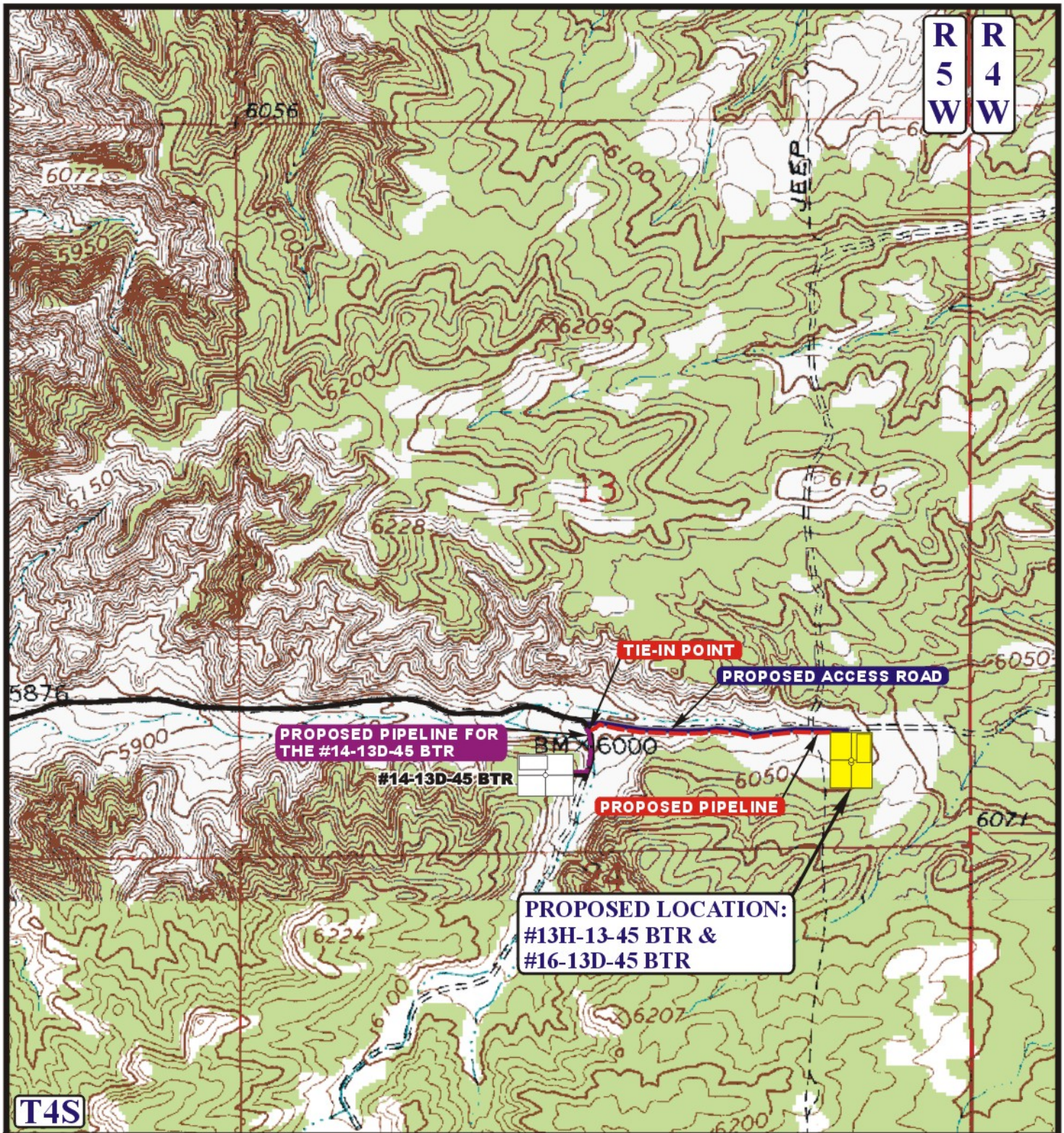
**B**  
TOPO

SCALE: 1" = 2000'

DRAWN BY: S.F.

REV: 04-03-12 C.I.





**APPROXIMATE TOTAL PIPELINE DISTANCE = 1,775' +/-**

**LEGEND:**

- PROPOSED ACCESS ROAD
- EXISTING PIPELINE
- PROPOSED PIPELINE
- PROPOSED PIPELINE (SERVICING OTHER WELLS)



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**BILL BARRETT CORPORATION**

**#13H-13-45 BTR & #16-13D-45 BTR**  
**SECTION 13, T4S, R5W, U.S.B.&M.**  
**SE 1/4 SE 1/4**

**TOPOGRAPHIC**  
**MAP**

**05 04 11**  
 MONTH DAY YEAR

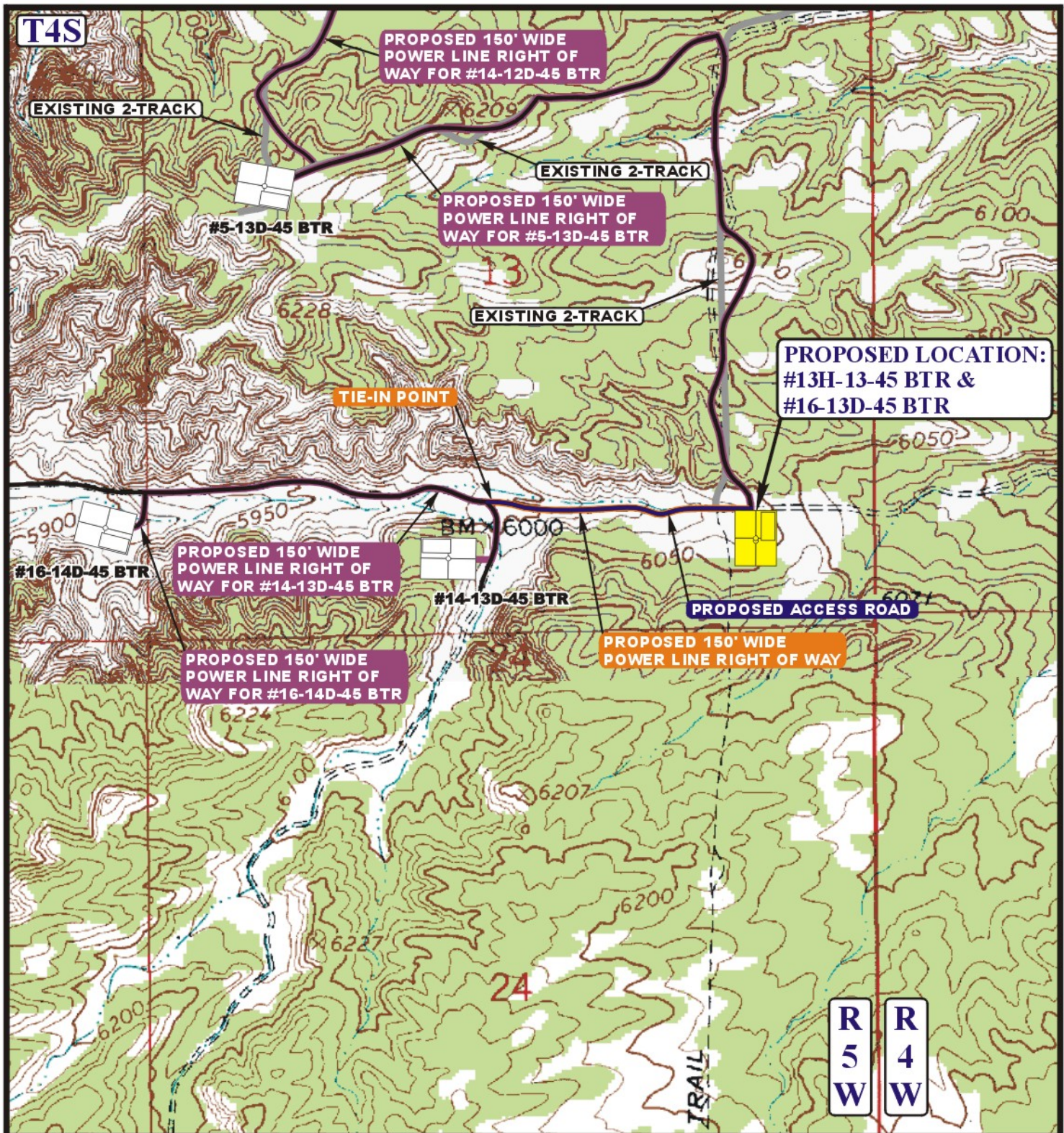
SCALE: 1" = 1000'

DRAWN BY: S.F.

REV: 04-03-12 C.I.







**APPROXIMATE TOTAL POWER LINE DISTANCE = 1,927' +/-**

**LEGEND:**

- PROPOSED ACCESS ROAD
- EXISTING 2-TRACK
- PROPOSED POWER LINE
- PROPOSED POWER LINE (SERVICING OTHER WELLS)



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**BILL BARRETT CORPORATION**

**#13H-13-45 BTR & #16-13D-45 BTR**  
**SECTION 13, T4S, R5W, U.S.B.&M.**  
**SE 1/4 SE 1/4**

**TOPOGRAPHIC**  
**MAP**

**06 29 11**  
 MONTH DAY YEAR

SCALE: 1" = 1000'

DRAWN BY: S.F.

REV: 04-03-12 C.I.

**D**  
**TOPO**





Bill Barrett Corp.  
 Project: Duchesne Co., UT (NAD27)  
 Site: Sec.13-T4S-R5W  
 Well: #13H-13-45 BTR  
 Wellbore: Wellbore #1  
 Design: Design #1  
 Lat: 40° 7' 40.040 N  
 Long: 110° 23' 29.872 W  
 Pad GL: 6043.00  
 KB: WELL @ 6058.00usft



## PROJECT DETAILS: Duchesne Co., UT (NAD27)

Geodetic System: US State Plane 1927 (Exact solution)  
 Datum: NAD 1927 (NADCON CONUS)  
 Ellipsoid: Clarke 1866  
 Zone: Utah Central 4302  
 System Datum: Mean Sea Level



Azimuths to True North  
 Magnetic North: 11.33°  
 Magnetic Field  
 Strength: 52167.7nT  
 Dip Angle: 65.77°  
 Date: 2012/06/07  
 Model: IGRF2010

## WELL DETAILS: #13H-13-45 BTR

+N/-S	+E/-W	Northing	Ground Level: Easting	6043.00 Latitude	Longitude	Slot
0.00	0.00	655512.615	2309917.287	40° 7' 40.040 N	110° 23' 29.872 W	

## WELLBORE TARGET DETAILS (LAT/LONG)

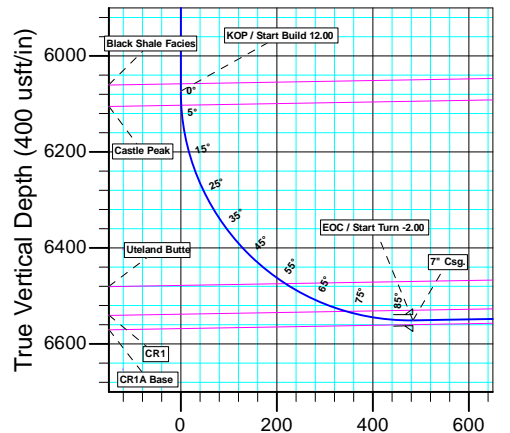
Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape Point
13H-13-45 BTR PBHL	6503.00	155.09	-3701.62	40° 7' 41.570 N	110° 24' 17.528 W	

## CASING DETAILS

TVD	MD	Name	Size
2000.00	2000.00	9 5/8" Csg.	9-5/8
6550.83	6830.50	7" Csg.	7

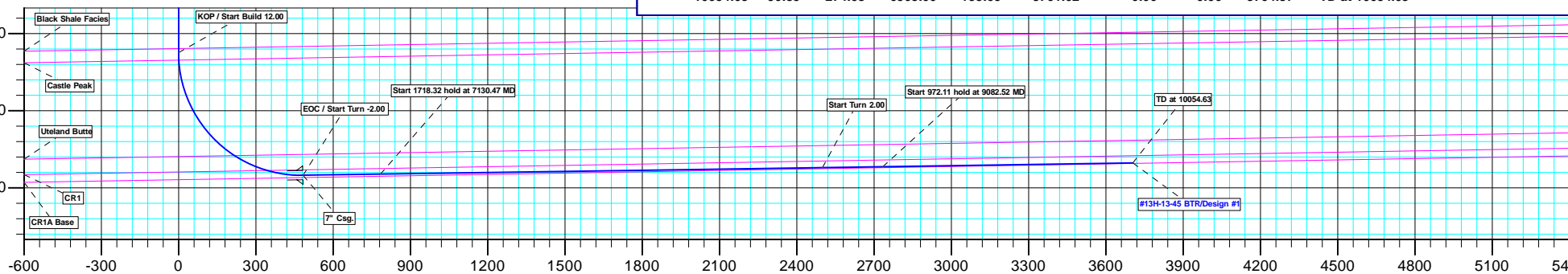
## FORMATION TOP DETAILS

TVDPath	MDPath	Formation
2248.00	2248.00	Green River
3053.00	3053.00	Mahogany
4223.00	4223.00	TGR3
5083.00	5083.00	Douglas Creek
5458.00	5458.00	3PT Mkr
6058.00	6058.00	Black Shale Facies
6102.98	6103.00	Castle Peak
6474.28	6549.19	Uteland Butte
6532.11	6689.09	CR1

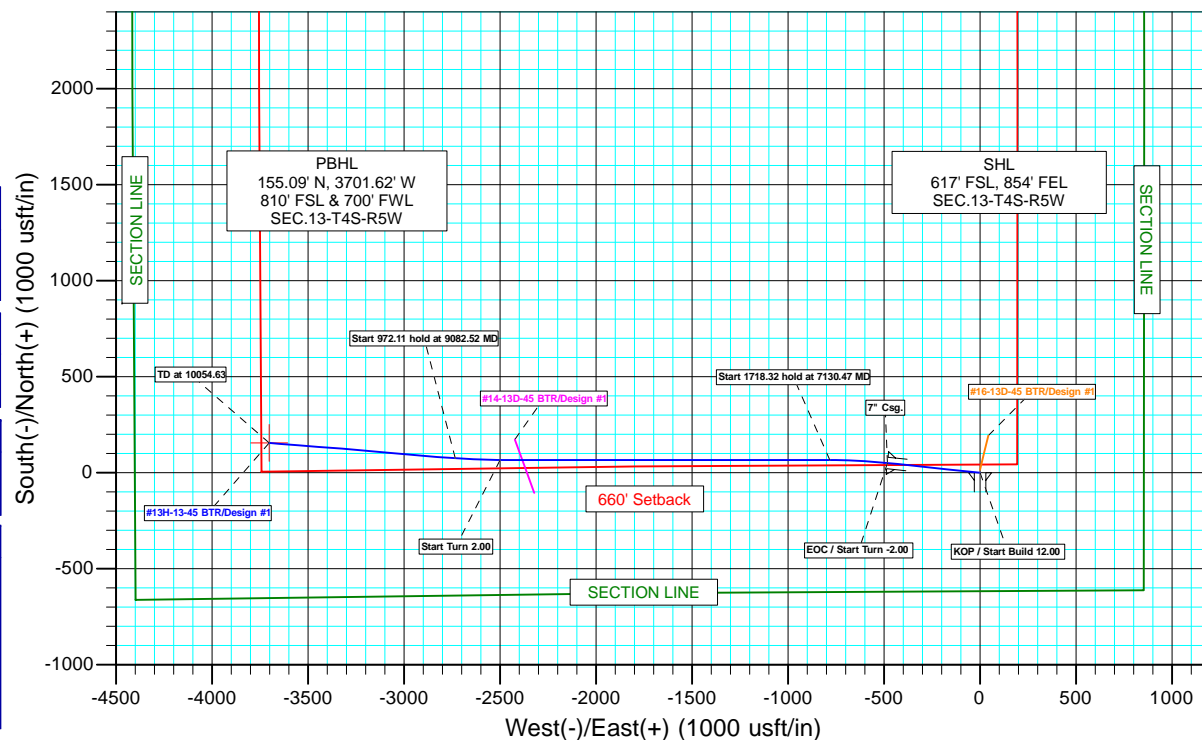


Vertical Section at 272.40° (400 usft/in)

True Vertical Depth (600 usft/in)



Vertical Section at 272.40° (600 usft/in)



## SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	KOP / Start Build 12.00
6073.42	0.00	0.00	6073.42	0.00	0.00	0.00	0.00	0.00	EOC / Start Turn -2.00
6830.50	90.85	276.00	6550.83	50.65	-481.89	12.00	276.00	483.59	Start 1718.32 hold at 7130.47 MD
7130.47	90.85	270.00	6546.38	66.34	-781.28	2.00	-89.96	783.37	Start Turn 2.00
8848.79	90.85	270.00	6520.89	66.34	-2499.41	0.00	0.00	2500.00	Start 972.11 hold at 9082.52 MD
9082.52	90.85	274.68	6517.42	75.87	-2732.86	2.00	89.97	2733.64	TD at 10054.63
10054.63	90.85	274.68	6503.00	155.09	-3701.62	0.00	0.00	3704.87	

Plan: Design #1 (#13H-13-45 BTR/Wellbore #1)

Created By: Bret Wolford

Date: 14:37, June 07 2012





**Sharewell Energy Services**  
Planning Report



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well #13H-13-45 BTR
<b>Company:</b>	Bill Barrett Corp.	<b>TVD Reference:</b>	WELL @ 6058.00usft
<b>Project:</b>	Duchesne Co., UT (NAD27)	<b>MD Reference:</b>	WELL @ 6058.00usft
<b>Site:</b>	Sec.13-T4S-R5W	<b>North Reference:</b>	True
<b>Well:</b>	#13H-13-45 BTR	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1		

<b>Project</b>	Duchesne Co., UT (NAD27)		
<b>Map System:</b>	US State Plane 1927 (Exact solution)	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	NAD 1927 (NADCON CONUS)		
<b>Map Zone:</b>	Utah Central 4302		

Site		Sec.13-T4S-R5W			
Site Position:		Northing:	655,527.921 usft	Latitude:	40° 7' 40.192 N
From:	Lat/Long	Easting:	2,309,917.097 usft	Longitude:	110° 23' 29.872 W
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16"	Grid Convergence:	0.71 °

Well	#13H-13-45 BTR					
Well Position	+N/-S	-15.31 usft	Northing:	655,512.615 usft	Latitude:	40° 7' 40.040 N
	+E/-W	0.00 usft	Easting:	2,309,917.287 usft	Longitude:	110° 23' 29.872 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	6,043.00 usft

<b>Wellbore</b>	Wellbore #1				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	06/07/12	11.33	65.77	52,168

<b>Design</b>	Design #1			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>
	6,503.00	0.00	0.00	272.40

<b>Plan Sections</b>										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
6,073.42	0.00	0.00	6,073.42	0.00	0.00	0.00	0.00	0.00	0.00	
6,830.50	90.85	276.00	6,550.83	50.65	-481.89	12.00	12.00	0.00	276.00	
7,130.47	90.85	270.00	6,546.38	66.34	-781.28	2.00	0.00	-2.00	-89.96	
8,848.79	90.85	270.00	6,520.89	66.34	-2,499.41	0.00	0.00	0.00	0.00	
9,082.52	90.85	274.68	6,517.42	75.87	-2,732.86	2.00	0.00	2.00	89.97	13H-13-45 BTR PBHI
10,054.63	90.85	274.68	6,503.00	155.09	-3,701.62	0.00	0.00	0.00	0.00	13H-13-45 BTR PBHI





**Sharewell Energy Services**  
Planning Report



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well #13H-13-45 BTR
<b>Company:</b>	Bill Barrett Corp.	<b>TVD Reference:</b>	WELL @ 6058.00usft
<b>Project:</b>	Duchesne Co., UT (NAD27)	<b>MD Reference:</b>	WELL @ 6058.00usft
<b>Site:</b>	Sec.13-T4S-R5W	<b>North Reference:</b>	True
<b>Well:</b>	#13H-13-45 BTR	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>9 5/8" Csg.</b>									
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Green River</b>									
2,248.00	0.00	0.00	2,248.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Mahogany</b>									
3,053.00	0.00	0.00	3,053.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00
3,800.00	0.00	0.00	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00
3,900.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00
4,100.00	0.00	0.00	4,100.00	0.00	0.00	0.00	0.00	0.00	0.00
4,200.00	0.00	0.00	4,200.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>TGR3</b>									
4,223.00	0.00	0.00	4,223.00	0.00	0.00	0.00	0.00	0.00	0.00
4,300.00	0.00	0.00	4,300.00	0.00	0.00	0.00	0.00	0.00	0.00
4,400.00	0.00	0.00	4,400.00	0.00	0.00	0.00	0.00	0.00	0.00
4,500.00	0.00	0.00	4,500.00	0.00	0.00	0.00	0.00	0.00	0.00
4,600.00	0.00	0.00	4,600.00	0.00	0.00	0.00	0.00	0.00	0.00



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well #13H-13-45 BTR
<b>Company:</b>	Bill Barrett Corp.	<b>TVD Reference:</b>	WELL @ 6058.00usft
<b>Project:</b>	Duchesne Co., UT (NAD27)	<b>MD Reference:</b>	WELL @ 6058.00usft
<b>Site:</b>	Sec.13-T4S-R5W	<b>North Reference:</b>	True
<b>Well:</b>	#13H-13-45 BTR	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,700.00	0.00	0.00	4,700.00	0.00	0.00	0.00	0.00	0.00	0.00
4,800.00	0.00	0.00	4,800.00	0.00	0.00	0.00	0.00	0.00	0.00
4,900.00	0.00	0.00	4,900.00	0.00	0.00	0.00	0.00	0.00	0.00
5,000.00	0.00	0.00	5,000.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Douglas Creek</b>									
5,083.00	0.00	0.00	5,083.00	0.00	0.00	0.00	0.00	0.00	0.00
5,100.00	0.00	0.00	5,100.00	0.00	0.00	0.00	0.00	0.00	0.00
5,200.00	0.00	0.00	5,200.00	0.00	0.00	0.00	0.00	0.00	0.00
5,300.00	0.00	0.00	5,300.00	0.00	0.00	0.00	0.00	0.00	0.00
5,400.00	0.00	0.00	5,400.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>3PT Mkr</b>									
5,458.00	0.00	0.00	5,458.00	0.00	0.00	0.00	0.00	0.00	0.00
5,500.00	0.00	0.00	5,500.00	0.00	0.00	0.00	0.00	0.00	0.00
5,600.00	0.00	0.00	5,600.00	0.00	0.00	0.00	0.00	0.00	0.00
5,700.00	0.00	0.00	5,700.00	0.00	0.00	0.00	0.00	0.00	0.00
5,800.00	0.00	0.00	5,800.00	0.00	0.00	0.00	0.00	0.00	0.00
5,900.00	0.00	0.00	5,900.00	0.00	0.00	0.00	0.00	0.00	0.00
6,000.00	0.00	0.00	6,000.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Black Shale Facies</b>									
6,058.00	0.00	0.00	6,058.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>KOP / Start Build 12.00</b>									
6,073.42	0.00	0.00	6,073.42	0.00	0.00	0.00	0.00	0.00	0.00
6,075.00	0.19	276.00	6,075.00	0.00	0.00	0.00	12.00	12.00	0.00
6,100.00	3.19	276.00	6,099.99	0.08	-0.74	0.74	12.00	12.00	0.00
<b>Castle Peak</b>									
6,103.00	3.55	276.00	6,102.98	0.10	-0.91	0.91	12.00	12.00	0.00
6,125.00	6.19	276.00	6,124.90	0.29	-2.77	2.78	12.00	12.00	0.00
6,150.00	9.19	276.00	6,149.67	0.64	-6.09	6.12	12.00	12.00	0.00
6,175.00	12.19	276.00	6,174.24	1.13	-10.71	10.74	12.00	12.00	0.00
6,200.00	15.19	276.00	6,198.52	1.74	-16.59	16.65	12.00	12.00	0.00
6,225.00	18.19	276.00	6,222.47	2.49	-23.73	23.81	12.00	12.00	0.00
6,250.00	21.19	276.00	6,246.00	3.37	-32.10	32.22	12.00	12.00	0.00
6,275.00	24.19	276.00	6,269.06	4.38	-41.69	41.84	12.00	12.00	0.00
6,300.00	27.19	276.00	6,291.59	5.51	-52.47	52.66	12.00	12.00	0.00
6,325.00	30.19	276.00	6,313.52	6.77	-64.41	64.63	12.00	12.00	0.00
6,350.00	33.19	276.00	6,334.79	8.14	-77.47	77.74	12.00	12.00	0.00
6,375.00	36.19	276.00	6,355.34	9.63	-91.61	91.94	12.00	12.00	0.00
6,400.00	39.19	276.00	6,375.12	11.23	-106.81	107.19	12.00	12.00	0.00
6,425.00	42.19	276.00	6,394.08	12.93	-123.02	123.45	12.00	12.00	0.00
6,450.00	45.19	276.00	6,412.15	14.73	-140.19	140.69	12.00	12.00	0.00
6,475.00	48.19	276.00	6,429.30	16.64	-158.28	158.84	12.00	12.00	0.00
6,500.00	51.19	276.00	6,445.47	18.63	-177.24	177.86	12.00	12.00	0.00
6,525.00	54.19	276.00	6,460.62	20.71	-197.01	197.71	12.00	12.00	0.00
<b>Uteland Butte</b>									
6,549.19	57.09	276.00	6,474.28	22.79	-216.87	217.64	12.00	12.00	0.00
6,550.00	57.19	276.00	6,474.71	22.87	-217.55	218.31	12.00	12.00	0.00
6,575.00	60.19	276.00	6,487.70	25.10	-238.79	239.63	12.00	12.00	0.00
6,600.00	63.19	276.00	6,499.56	27.40	-260.67	261.59	12.00	12.00	0.00
6,625.00	66.19	276.00	6,510.25	29.76	-283.15	284.14	12.00	12.00	0.00
6,650.00	69.19	276.00	6,519.74	32.18	-306.15	307.23	12.00	12.00	0.00
6,675.00	72.19	276.00	6,528.00	34.64	-329.61	330.77	12.00	12.00	0.00
<b>CR1</b>									
6,689.09	73.88	276.00	6,532.11	36.05	-343.01	344.22	12.00	12.00	0.00





<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well #13H-13-45 BTR
<b>Company:</b>	Bill Barrett Corp.	<b>TVD Reference:</b>	WELL @ 6058.00usft
<b>Project:</b>	Duchesne Co., UT (NAD27)	<b>MD Reference:</b>	WELL @ 6058.00usft
<b>Site:</b>	Sec.13-T4S-R5W	<b>North Reference:</b>	True
<b>Well:</b>	#13H-13-45 BTR	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
6,700.00	75.19	276.00	6,535.02	37.15	-353.47	354.71	12.00	12.00	0.00
6,725.00	78.19	276.00	6,540.78	39.69	-377.66	378.99	12.00	12.00	0.00
6,750.00	81.19	276.00	6,545.25	42.26	-402.12	403.54	12.00	12.00	0.00
6,775.00	84.19	276.00	6,548.43	44.86	-426.78	428.28	12.00	12.00	0.00
6,800.00	87.19	276.00	6,550.31	47.46	-451.57	453.16	12.00	12.00	0.00
6,825.00	90.19	276.00	6,550.88	50.07	-476.42	478.10	12.00	12.00	0.00
<b>EOC / Start Turn -2.00 - 7" Csg.</b>									
6,830.50	90.85	276.00	6,550.83	50.65	-481.89	483.59	12.00	12.00	0.00
6,900.00	90.85	274.61	6,549.80	57.07	-551.08	552.99	2.00	0.00	-2.00
7,000.00	90.85	272.61	6,548.32	63.37	-650.87	652.95	2.00	0.00	-2.00
7,100.00	90.85	270.61	6,546.83	66.18	-750.81	752.93	2.00	0.00	-2.00
<b>Start 1718.32 hold at 7130.47 MD</b>									
7,130.47	90.85	270.00	6,546.38	66.34	-781.28	783.37	2.00	0.00	-2.00
7,200.00	90.85	270.00	6,545.35	66.34	-850.80	852.83	0.00	0.00	0.00
7,300.00	90.85	270.00	6,543.86	66.34	-950.79	952.73	0.00	0.00	0.00
7,400.00	90.85	270.00	6,542.38	66.34	-1,050.78	1,052.64	0.00	0.00	0.00
7,500.00	90.85	270.00	6,540.90	66.34	-1,150.77	1,152.54	0.00	0.00	0.00
7,600.00	90.85	270.00	6,539.41	66.34	-1,250.76	1,252.44	0.00	0.00	0.00
7,700.00	90.85	270.00	6,537.93	66.34	-1,350.75	1,352.34	0.00	0.00	0.00
7,800.00	90.85	270.00	6,536.45	66.34	-1,450.74	1,452.24	0.00	0.00	0.00
7,900.00	90.85	270.00	6,534.96	66.34	-1,550.72	1,552.14	0.00	0.00	0.00
8,000.00	90.85	270.00	6,533.48	66.34	-1,650.71	1,652.04	0.00	0.00	0.00
8,100.00	90.85	270.00	6,532.00	66.34	-1,750.70	1,751.94	0.00	0.00	0.00
8,200.00	90.85	270.00	6,530.51	66.34	-1,850.69	1,851.85	0.00	0.00	0.00
8,300.00	90.85	270.00	6,529.03	66.34	-1,950.68	1,951.75	0.00	0.00	0.00
8,400.00	90.85	270.00	6,527.55	66.34	-2,050.67	2,051.65	0.00	0.00	0.00
8,500.00	90.85	270.00	6,526.06	66.34	-2,150.66	2,151.55	0.00	0.00	0.00
8,600.00	90.85	270.00	6,524.58	66.34	-2,250.65	2,251.45	0.00	0.00	0.00
8,700.00	90.85	270.00	6,523.09	66.34	-2,350.64	2,351.35	0.00	0.00	0.00
8,800.00	90.85	270.00	6,521.61	66.34	-2,450.63	2,451.25	0.00	0.00	0.00
<b>Start Turn 2.00</b>									
8,848.79	90.85	270.00	6,520.89	66.34	-2,499.41	2,500.00	0.00	0.00	0.00
8,900.00	90.85	271.02	6,520.13	66.80	-2,550.61	2,551.17	2.00	0.00	2.00
9,000.00	90.85	273.02	6,518.64	70.33	-2,650.53	2,651.15	2.00	0.00	2.00
<b>Start 972.11 hold at 9082.52 MD</b>									
9,082.52	90.85	274.68	6,517.42	75.87	-2,732.86	2,733.64	2.00	0.00	2.00
9,100.00	90.85	274.68	6,517.16	77.29	-2,750.28	2,751.10	0.00	0.00	0.00
9,200.00	90.85	274.68	6,515.68	85.44	-2,849.93	2,851.01	0.00	0.00	0.00
9,300.00	90.85	274.68	6,514.19	93.59	-2,949.59	2,950.92	0.00	0.00	0.00
9,400.00	90.85	274.68	6,512.71	101.74	-3,049.24	3,050.83	0.00	0.00	0.00
9,500.00	90.85	274.68	6,511.22	109.89	-3,148.90	3,150.74	0.00	0.00	0.00
9,600.00	90.85	274.68	6,509.74	118.04	-3,248.56	3,250.65	0.00	0.00	0.00
9,700.00	90.85	274.68	6,508.26	126.19	-3,348.21	3,350.56	0.00	0.00	0.00
9,800.00	90.85	274.68	6,506.77	134.34	-3,447.87	3,450.47	0.00	0.00	0.00
9,900.00	90.85	274.68	6,505.29	142.49	-3,547.53	3,550.38	0.00	0.00	0.00
10,000.00	90.85	274.68	6,503.81	150.64	-3,647.18	3,650.29	0.00	0.00	0.00
<b>TD at 10054.63 - 13H-13-45 BTR PBHL</b>									
10,054.63	90.85	274.68	6,503.00	155.09	-3,701.62	3,704.87	0.00	0.00	0.00



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well #13H-13-45 BTR
<b>Company:</b>	Bill Barrett Corp.	<b>TVD Reference:</b>	WELL @ 6058.00usft
<b>Project:</b>	Duchesne Co., UT (NAD27)	<b>MD Reference:</b>	WELL @ 6058.00usft
<b>Site:</b>	Sec.13-T4S-R5W	<b>North Reference:</b>	True
<b>Well:</b>	#13H-13-45 BTR	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1		

Design Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
- Shape									
13H-13-45 BTR PBHL	0.00	0.00	6,503.00	155.09	-3,701.62	655,621.826	2,306,214.026	40° 7' 41.570 N	110° 24' 17.528 W
- plan hits target center									
- Point									

6,830.50	6,550.83	7" Csg.	7	8-3/4
2,000.00	2,000.00	9 5/8" Csg.	9-5/8	12-1/4

Formations					
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction
(usft)	(usft)			(°)	(°)
2,248.00	2,248.00	Green River		-0.98	272.40
3,053.00	3,053.00	Mahogany		-0.98	272.40
4,223.00	4,223.00	TGR3		-0.98	272.40
5,083.00	5,083.00	Douglas Creek		-0.98	272.40
5,458.00	5,458.00	3PT Mkr		-0.98	272.40
6,058.00	6,058.00	Black Shale Facies		-0.98	272.40
6,103.00	6,103.00	Castle Peak		-0.98	272.40
6,549.19	6,478.00	Uteland Butte		-0.98	272.40
6,689.09	6,538.00	CR1		-0.98	272.40

Plan Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(usft)	(usft)	+N/-S (usft)	+E/-W (usft)	
6,073.42	6,073.42	0.00	0.00	KOP / Start Build 12.00
6,830.50	6,550.83	50.65	-481.89	EOC / Start Turn -2.00
7,130.47	6,546.38	66.34	-781.28	Start 1718.32 hold at 7130.47 MD
8,848.79	6,520.89	66.34	-2,499.41	Start Turn 2.00
9,082.52	6,517.42	75.87	-2,732.86	Start 972.11 hold at 9082.52 MD
10,054.63	6,503.00	155.09	-3,701.62	TD at 10054.63





**Bill Barrett Corporation**

## **Bill Barrett Corp.**

Duchesne Co., UT (NAD27)

Sec.13-T4S-R5W

#13H-13-45 BTR

Wellbore #1

Design #1

## **Anticollision Report**

07 June, 2012





<b>Company:</b>	Bill Barrett Corp.	<b>Local Co-ordinate Reference:</b>	Well #13H-13-45 BTR
<b>Project:</b>	Duchesne Co., UT (NAD27)	<b>TVD Reference:</b>	WELL @ 6058.00usft
<b>Reference Site:</b>	Sec.13-T4S-R5W	<b>MD Reference:</b>	WELL @ 6058.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	#13H-13-45 BTR	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	EDM 5000.1 Single User Db
<b>Reference Design:</b>	Design #1	<b>Offset TVD Reference:</b>	Offset Datum

Reference	Design #1		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	Stations	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 9,999.98 usft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program		Date	06/07/12		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.00	10,054.63	Design #1 (Wellbore #1)	MWD	MWD - Standard	

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Sec.13-T4S-R5W						
#14-13D-45 BTR - Wellbore #1 - Design #1	8,771.72	6,524.93	105.72	23.94	1.293	Level 3, CC, ES, SF
#16-13D-45 BTR - Wellbore #1 - Design #1	2,400.00	2,399.00	15.30	4.77	1.453	Level 3, CC, ES, SF

<b>Offset Design</b>	Sec.13-T4S-R5W - #14-13D-45 BTR - Wellbore #1 - Design #1										<b>Offset Site Error:</b>	0.00 usft
<b>Survey Program:</b>	O-MWD										<b>Offset Well Error:</b>	0.00 usft
<b>Reference</b>	<b>Offset</b>	<b>Semi Major Axis</b>		<b>Distance</b>				<b>Minimum Separation</b>	<b>Separation Factor</b>	<b>Warning</b>		
<b>Measured Depth (usft)</b>	<b>Vertical Depth (usft)</b>	<b>Measured Depth (usft)</b>	<b>Vertical Depth (usft)</b>	<b>Reference (usft)</b>	<b>Offset (usft)</b>	<b>Highside Toolface (°)</b>	<b>Offset Wellbore Centre +N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Between Centres (usft)</b>	<b>Between Ellipses (usft)</b>		
0.00	0.00	0.00	0.00	0.00	0.00	-92.57	-104.07	-2,320.88	2,323.24			
100.00	100.00	88.00	88.00	0.10	0.08	-92.57	-104.07	-2,320.88	2,323.21	2,323.03	0.18	N/A
200.00	200.00	188.00	188.00	0.32	0.29	-92.57	-104.07	-2,320.88	2,323.21	2,322.60	0.61	3,786.127
300.00	300.00	288.00	288.00	0.55	0.52	-92.57	-104.07	-2,320.88	2,323.21	2,322.15	1.06	2,185.228
400.00	400.00	388.00	388.00	0.77	0.74	-92.57	-104.07	-2,320.88	2,323.21	2,321.70	1.51	1,535.829
500.00	500.00	488.00	488.00	0.99	0.97	-92.57	-104.07	-2,320.88	2,323.21	2,321.25	1.96	1,183.978
600.00	600.00	588.00	588.00	1.22	1.19	-92.57	-104.07	-2,320.88	2,323.21	2,320.80	2.41	963.293
700.00	700.00	688.00	688.00	1.44	1.42	-92.57	-104.07	-2,320.88	2,323.21	2,320.35	2.86	811.950
800.00	800.00	788.00	788.00	1.67	1.64	-92.57	-104.07	-2,320.88	2,323.21	2,319.90	3.31	701.706
900.00	900.00	888.00	888.00	1.89	1.87	-92.57	-104.07	-2,320.88	2,323.21	2,319.45	3.76	617.820
1,000.00	1,000.00	988.00	988.00	2.12	2.09	-92.57	-104.07	-2,320.88	2,323.21	2,319.00	4.21	551.849
1,100.00	1,100.00	1,088.00	1,088.00	2.34	2.32	-92.57	-104.07	-2,320.88	2,323.21	2,318.55	4.66	498.607
1,200.00	1,200.00	1,188.00	1,188.00	2.57	2.54	-92.57	-104.07	-2,320.88	2,323.21	2,318.10	5.11	454.735
1,300.00	1,300.00	1,288.00	1,288.00	2.79	2.77	-92.57	-104.07	-2,320.88	2,323.21	2,317.65	5.56	417.959
1,400.00	1,400.00	1,388.00	1,388.00	3.02	2.99	-92.57	-104.07	-2,320.88	2,323.21	2,317.20	6.01	386.686
1,500.00	1,500.00	1,488.00	1,488.00	3.24	3.22	-92.57	-104.07	-2,320.88	2,323.21	2,316.75	6.46	359.768
1,600.00	1,600.00	1,588.00	1,588.00	3.47	3.44	-92.57	-104.07	-2,320.88	2,323.21	2,316.30	6.91	336.353
1,700.00	1,700.00	1,688.00	1,688.00	3.69	3.66	-92.57	-104.07	-2,320.88	2,323.21	2,315.85	7.36	315.800
1,800.00	1,800.00	1,788.00	1,788.00	3.92	3.89	-92.57	-104.07	-2,320.88	2,323.21	2,315.40	7.81	297.614
1,900.00	1,900.00	1,888.00	1,888.00	4.14	4.11	-92.57	-104.07	-2,320.88	2,323.21	2,314.96	8.26	281.408
2,000.00	2,000.00	1,988.00	1,988.00	4.37	4.34	-92.57	-104.07	-2,320.88	2,323.21	2,314.51	8.71	266.877
2,100.00	2,100.00	2,088.00	2,088.00	4.59	4.56	-92.57	-104.07	-2,320.88	2,323.21	2,314.06	9.15	253.772
2,200.00	2,200.00	2,178.38	2,178.38	4.82	4.77	-92.55	-103.57	-2,321.06	2,323.39	2,313.81	9.58	242.474
2,300.00	2,300.00	2,267.41	2,267.39	5.04	4.97	-92.51	-101.77	-2,321.72	2,324.04	2,314.04	10.01	232.265
2,400.00	2,400.00	2,356.36	2,356.27	5.27	5.17	-92.43	-98.69	-2,322.86	2,325.17	2,314.74	10.43	222.930

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation





# Sharewell Energy Services

## Anticollision Report



<b>Company:</b>	Bill Barrett Corp.	<b>Local Co-ordinate Reference:</b>	Well #13H-13-45 BTR
<b>Project:</b>	Duchesne Co., UT (NAD27)	<b>TVD Reference:</b>	WELL @ 6058.00usft
<b>Reference Site:</b>	Sec.13-T4S-R5W	<b>MD Reference:</b>	WELL @ 6058.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	#13H-13-45 BTR	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	EDM 5000.1 Single User Db
<b>Reference Design:</b>	Design #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
2,500.00	2,500.00	2,445.18	2,444.97	5.49	5.36	-92.32	-94.31	-2,324.46	2,326.77	2,315.92	10.85	214.366		
2,600.00	2,600.00	2,533.84	2,533.43	5.71	5.57	-92.18	-88.66	-2,326.54	2,328.87	2,317.59	11.28	206.487		
2,700.00	2,700.00	2,622.30	2,621.57	5.94	5.77	-92.01	-81.74	-2,329.08	2,331.47	2,319.76	11.70	199.219		
2,800.00	2,800.00	2,710.50	2,709.34	6.16	5.97	-91.81	-73.57	-2,332.09	2,334.57	2,322.45	12.13	192.497		
2,900.00	2,900.00	2,807.49	2,805.75	6.39	6.21	-91.56	-63.62	-2,335.74	2,338.06	2,325.48	12.57	185.960		
3,000.00	3,000.00	2,906.88	2,904.55	6.61	6.45	-91.31	-53.40	-2,339.50	2,341.60	2,328.57	13.02	179.795		
3,100.00	3,100.00	3,006.28	3,003.35	6.84	6.70	-91.06	-43.17	-2,343.26	2,345.18	2,331.71	13.48	174.032		
3,200.00	3,200.00	3,105.68	3,102.15	7.06	6.95	-90.80	-32.95	-2,347.02	2,348.82	2,334.89	13.93	168.635		
3,300.00	3,300.00	3,205.08	3,200.95	7.29	7.20	-90.55	-22.72	-2,350.77	2,352.49	2,338.11	14.38	163.569		
3,400.00	3,400.00	3,304.48	3,299.75	7.51	7.46	-90.30	-12.50	-2,354.53	2,356.22	2,341.38	14.84	158.807		
3,500.00	3,500.00	3,403.87	3,398.55	7.74	7.72	-90.06	-2.27	-2,358.29	2,359.99	2,344.69	15.29	154.323		
3,600.00	3,600.00	3,503.27	3,497.34	7.96	7.99	-89.81	7.95	-2,362.05	2,363.80	2,348.05	15.75	150.093		
3,700.00	3,700.00	3,602.67	3,596.14	8.19	8.25	-89.56	18.17	-2,365.80	2,367.66	2,351.45	16.21	146.098		
3,800.00	3,800.00	3,702.07	3,694.94	8.41	8.52	-89.31	28.40	-2,369.56	2,371.56	2,354.89	16.66	142.318		
3,900.00	3,900.00	3,801.46	3,793.74	8.64	8.79	-89.07	38.62	-2,373.32	2,375.50	2,358.38	17.12	138.737		
4,000.00	4,000.00	3,900.86	3,892.54	8.86	9.06	-88.82	48.85	-2,377.08	2,379.49	2,361.91	17.58	135.340		
4,100.00	4,100.00	4,000.26	3,991.34	9.09	9.34	-88.58	59.07	-2,380.83	2,383.53	2,365.49	18.04	132.114		
4,200.00	4,200.00	4,099.66	4,090.14	9.31	9.61	-88.34	69.30	-2,384.59	2,387.60	2,369.10	18.50	129.046		
4,300.00	4,300.00	4,199.05	4,188.94	9.54	9.89	-88.09	79.52	-2,388.35	2,391.72	2,372.76	18.96	126.126		
4,400.00	4,400.00	4,298.45	4,287.74	9.76	10.17	-87.85	89.74	-2,392.11	2,395.89	2,376.46	19.42	123.342		
4,500.00	4,500.00	4,397.85	4,386.54	9.99	10.45	-87.61	99.97	-2,395.86	2,400.09	2,380.21	19.89	120.686		
4,600.00	4,600.00	4,497.25	4,485.33	10.21	10.72	-87.37	110.19	-2,399.62	2,404.34	2,383.99	20.35	118.150		
4,700.00	4,700.00	4,596.64	4,584.13	10.43	11.01	-87.13	120.42	-2,403.38	2,408.63	2,387.82	20.81	115.726		
4,800.00	4,800.00	4,696.04	4,682.93	10.66	11.29	-86.89	130.64	-2,407.14	2,412.97	2,391.69	21.28	113.406		
4,900.00	4,900.00	4,797.83	4,784.10	10.88	11.57	-86.65	141.10	-2,410.98	2,417.34	2,395.59	21.74	111.177		
5,000.00	5,000.00	4,917.76	4,903.47	11.11	11.83	-86.40	151.99	-2,414.98	2,421.23	2,399.05	22.19	109.137		
5,100.00	5,100.00	5,038.12	5,023.49	11.33	12.08	-86.20	160.55	-2,418.13	2,424.31	2,401.69	22.63	107.145		
5,200.00	5,200.00	5,158.82	5,144.01	11.56	12.32	-86.06	166.77	-2,420.41	2,426.55	2,403.48	23.07	105.198		
5,300.00	5,300.00	5,279.75	5,264.86	11.78	12.54	-85.97	170.60	-2,421.82	2,427.93	2,404.43	23.50	103.295		
5,400.00	5,400.00	5,400.80	5,385.89	12.01	12.75	-85.94	172.04	-2,422.35	2,428.45	2,404.51	23.94	101.435		
5,500.00	5,500.00	5,502.90	5,488.00	12.23	12.94	-85.94	172.05	-2,422.36	2,428.46	2,404.09	24.36	99.676		
5,600.00	5,600.00	5,602.90	5,588.00	12.46	13.14	-85.94	172.05	-2,422.36	2,428.46	2,403.65	24.81	97.896		
5,700.00	5,700.00	5,702.90	5,688.00	12.68	13.35	-85.94	172.05	-2,422.36	2,428.46	2,403.21	25.25	96.178		
5,800.00	5,800.00	5,802.90	5,788.00	12.91	13.55	-85.94	172.05	-2,422.36	2,428.46	2,402.76	25.69	94.518		
5,900.00	5,900.00	5,902.90	5,888.00	13.13	13.76	-85.94	172.05	-2,422.36	2,428.46	2,402.32	26.14	92.913		
6,000.00	6,000.00	6,002.90	5,988.00	13.36	13.96	-85.94	172.05	-2,422.36	2,428.46	2,401.88	26.58	91.362		
6,073.42	6,073.42	6,076.32	6,061.42	13.52	14.11	-85.94	172.05	-2,422.36	2,428.46	2,401.55	26.91	90.255		
6,075.00	6,075.00	6,077.90	6,063.00	13.53	14.12	-1.94	172.05	-2,422.36	2,428.46	2,400.98	27.47	88.389		
6,100.00	6,099.99	6,102.89	6,087.99	13.58	14.17	-1.94	172.05	-2,422.36	2,427.72	2,400.17	27.55	88.113		
6,125.00	6,124.90	6,127.80	6,112.90	13.63	14.22	-1.95	172.05	-2,422.36	2,425.68	2,398.11	27.57	87.986		
6,150.00	6,149.67	6,152.57	6,137.67	13.68	14.27	-1.97	172.05	-2,422.36	2,422.33	2,394.81	27.52	88.007		
6,175.00	6,174.24	6,177.14	6,162.24	13.73	14.32	-1.99	172.05	-2,422.36	2,417.70	2,390.28	27.42	88.179		
6,200.00	6,198.52	6,201.43	6,186.52	13.78	14.37	-2.02	172.05	-2,422.36	2,411.79	2,384.54	27.25	88.503		
6,225.00	6,222.47	6,225.37	6,210.47	13.84	14.42	-2.06	172.05	-2,422.36	2,404.61	2,377.59	27.02	88.981		
6,250.00	6,246.00	6,248.90	6,234.00	13.90	14.47	-2.11	172.05	-2,422.36	2,396.20	2,369.46	26.74	89.618		
6,275.00	6,269.06	6,271.97	6,257.06	13.96	14.52	-2.16	172.05	-2,422.36	2,386.56	2,360.16	26.39	90.421		
6,300.00	6,291.59	6,294.49	6,279.59	14.03	14.57	-2.23	172.05	-2,422.36	2,375.73	2,349.73	25.99	91.394		
6,325.00	6,313.52	6,316.42	6,301.52	14.10	14.61	-2.30	172.05	-2,422.36	2,363.74	2,338.19	25.54	92.545		
6,350.00	6,334.79	6,337.69	6,322.79	14.18	14.66	-2.39	172.05	-2,422.36	2,350.61	2,325.57	25.04	93.882		
6,375.00	6,355.34	6,358.25	6,343.34	14.27	14.70	-2.49	172.05	-2,422.36	2,336.39	2,311.91	24.49	95.416		
6,400.00	6,375.12	6,378.03	6,363.12	14.36	14.74	-2.61	172.05	-2,422.36	2,321.12	2,297.23	23.89	97.154		
6,425.00	6,394.08	6,396.98	6,382.08	14.47	14.78	-2.75	172.05	-2,422.36	2,304.83	2,281.58	23.26	99.106		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



# Sharewell Energy Services

## Anticollision Report



<b>Company:</b>	Bill Barrett Corp.	<b>Local Co-ordinate Reference:</b>	Well #13H-13-45 BTR
<b>Project:</b>	Duchesne Co., UT (NAD27)	<b>TVD Reference:</b>	WELL @ 6058.00usft
<b>Reference Site:</b>	Sec.13-T4S-R5W	<b>MD Reference:</b>	WELL @ 6058.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	#13H-13-45 BTR	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	EDM 5000.1 Single User Db
<b>Reference Design:</b>	Design #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
6,450.00	6,412.15	6,415.06	6,400.15	14.60	14.82	-2.92	172.05	-2,422.36	2,287.58	2,264.99	22.59	101.281		
6,475.00	6,429.30	6,432.20	6,417.30	14.74	14.85	-3.11	172.05	-2,422.36	2,269.40	2,247.51	21.89	103.684		
6,500.00	6,445.47	6,448.37	6,433.47	14.90	14.89	-3.33	172.05	-2,422.36	2,250.35	2,229.19	21.17	106.317		
6,525.00	6,460.62	6,463.53	6,448.62	15.07	14.92	-3.60	172.05	-2,422.36	2,230.48	2,210.05	20.43	109.176		
6,550.00	6,474.71	6,477.62	6,462.71	15.27	14.95	-3.92	172.05	-2,422.36	2,209.85	2,190.16	19.69	112.244		
6,575.00	6,487.70	6,490.61	6,475.70	15.49	14.97	-4.32	172.05	-2,422.36	2,188.51	2,169.56	18.95	115.486		
6,600.00	6,499.56	6,502.46	6,487.56	15.73	15.00	-4.81	172.05	-2,422.36	2,166.52	2,148.29	18.23	118.840		
6,625.00	6,510.25	6,513.15	6,498.25	16.00	15.02	-5.42	172.05	-2,422.36	2,143.94	2,126.39	17.55	122.196		
6,650.00	6,519.74	6,522.64	6,507.74	16.29	15.04	-6.22	172.05	-2,422.36	2,120.83	2,103.91	16.92	125.379		
6,675.00	6,528.00	6,530.90	6,516.00	16.60	15.06	-7.30	172.05	-2,422.36	2,097.25	2,080.88	16.37	128.088		
6,700.00	6,535.02	6,537.92	6,523.02	16.94	15.07	-8.81	172.05	-2,422.36	2,073.28	2,057.31	15.97	129.806		
6,725.00	6,540.78	6,543.68	6,528.78	17.29	15.08	-11.08	172.05	-2,422.36	2,048.98	2,033.16	15.82	129.556		
6,750.00	6,545.25	6,548.15	6,533.25	17.67	15.09	-14.84	172.05	-2,422.36	2,024.40	2,008.24	16.16	125.291		
6,775.00	6,548.43	6,551.33	6,536.43	18.07	15.10	-22.09	172.05	-2,422.36	1,999.63	1,981.84	17.78	112.436		
6,800.00	6,550.31	6,553.21	6,538.31	18.48	15.10	-40.32	172.05	-2,422.36	1,974.72	1,951.13	23.59	83.703		
6,825.00	6,550.88	6,553.78	6,538.88	18.91	15.11	-94.49	172.05	-2,422.36	1,949.75	1,916.37	33.38	58.408		
6,830.50	6,550.83	6,553.73	6,538.83	19.00	15.11	-109.34	172.05	-2,422.36	1,944.26	1,912.11	32.15	60.475		
6,900.00	6,549.80	6,552.70	6,537.80	20.26	15.10	-127.87	172.05	-2,422.36	1,874.80	1,845.65	29.15	64.320		
7,000.00	6,548.32	6,551.22	6,536.32	22.24	15.10	133.36	172.05	-2,422.36	1,774.82	1,746.65	28.17	63.001		
7,100.00	6,546.83	6,549.73	6,534.83	24.37	15.10	105.74	172.05	-2,422.36	1,674.89	1,637.51	37.38	44.810		
7,130.47	6,546.38	6,549.28	6,534.38	25.04	15.10	102.97	172.05	-2,422.36	1,644.48	1,606.05	38.43	42.793		
7,200.00	6,545.35	6,548.25	6,533.35	26.61	15.09	102.44	172.05	-2,422.36	1,575.11	1,535.07	40.04	39.340		
7,300.00	6,543.86	6,546.77	6,531.86	28.95	15.09	101.67	172.05	-2,422.36	1,475.36	1,432.92	42.44	34.763		
7,400.00	6,542.38	6,545.28	6,530.38	31.37	15.09	100.89	172.05	-2,422.36	1,375.64	1,330.72	44.92	30.624		
7,500.00	6,540.90	6,543.80	6,528.90	33.84	15.09	100.12	172.05	-2,422.36	1,275.97	1,228.51	47.46	26.885		
7,600.00	6,539.41	6,542.32	6,527.41	36.35	15.08	99.34	172.05	-2,422.36	1,176.36	1,126.31	50.05	23.504		
7,700.00	6,537.93	6,540.83	6,525.93	38.91	15.08	98.55	172.05	-2,422.36	1,076.81	1,024.13	52.68	20.442		
7,800.00	6,536.45	6,539.35	6,524.45	41.49	15.08	97.76	172.05	-2,422.36	977.35	922.02	55.33	17.663		
7,900.00	6,534.96	6,537.87	6,522.96	44.09	15.07	96.97	172.05	-2,422.36	878.02	820.00	58.02	15.134		
8,000.00	6,533.48	6,536.38	6,521.48	46.72	15.07	96.18	172.05	-2,422.36	778.85	718.13	60.72	12.828		
8,100.00	6,532.00	6,534.90	6,520.00	49.36	15.07	95.38	172.05	-2,422.36	679.92	616.49	63.43	10.719		
8,200.00	6,530.51	6,533.41	6,518.51	52.02	15.06	94.59	172.05	-2,422.36	581.36	515.20	66.16	8.788		
8,300.00	6,529.03	6,531.93	6,517.03	54.69	15.06	93.79	172.05	-2,422.36	483.38	414.49	68.89	7.017		
8,400.00	6,527.55	6,530.45	6,515.55	57.37	15.06	92.99	172.05	-2,422.36	386.43	314.80	71.62	5.395		
8,500.00	6,526.06	6,528.96	6,514.06	60.06	15.05	92.18	172.05	-2,422.36	291.54	217.18	74.36	3.921		
8,600.00	6,524.58	6,527.48	6,512.58	62.76	15.05	91.38	172.05	-2,422.36	201.64	124.55	77.09	2.616		
8,700.00	6,523.09	6,526.00	6,511.09	65.46	15.05	90.58	172.05	-2,422.36	127.75	47.93	79.82	1.600		
8,771.72	6,522.03	6,524.93	6,510.03	67.40	15.05	90.00	172.05	-2,422.36	105.72	23.94	81.77	1.293 Level 3, CC, ES, SF		
8,800.00	6,521.61	6,524.51	6,509.61	68.17	15.04	89.77	172.05	-2,422.36	109.43	26.89	82.54	1.326 Level 3		
8,848.79	6,520.89	6,523.79	6,508.89	69.50	15.04	89.38	172.05	-2,422.36	130.82	46.96	83.86	1.560		
8,900.00	6,520.13	6,523.03	6,508.13	70.89	15.04	89.00	172.05	-2,422.36	165.92	80.64	85.28	1.946		
9,000.00	6,518.64	6,521.55	6,506.64	73.62	15.04	88.33	172.05	-2,422.36	249.83	161.84	87.99	2.839		
9,082.52	6,517.42	6,520.32	6,505.42	75.88	15.04	87.89	172.05	-2,422.36	325.06	234.90	90.16	3.605		
9,100.00	6,517.16	6,520.06	6,505.16	76.36	15.04	87.76	172.05	-2,422.36	341.34	250.70	90.64	3.766		
9,200.00	6,515.68	6,518.58	6,503.68	79.10	15.03	87.06	172.05	-2,422.36	436.26	342.92	93.34	4.674		
9,300.00	6,514.19	6,517.09	6,502.19	81.85	15.03	86.36	172.05	-2,422.36	533.04	437.01	96.03	5.551		
9,400.00	6,512.71	6,515.61	6,500.71	84.60	15.03	85.67	172.05	-2,422.36	630.82	532.11	98.71	6.391		
9,500.00	6,511.23	6,514.13	6,499.23	87.35	15.02	84.97	172.05	-2,422.36	729.20	627.83	101.37	7.193		
9,600.00	6,509.74	6,512.64	6,497.74	90.11	15.02	84.27	172.05	-2,422.36	827.96	723.95	104.02	7.960		
9,700.00	6,508.26	6,511.16	6,496.26	92.87	15.02	83.58	172.05	-2,422.36	926.99	820.34	106.65	8.692		
9,800.00	6,506.77	6,509.68	6,494.77	95.63	15.01	82.89	172.05	-2,422.36	1,026.21	916.95	109.26	9.392		
9,900.00	6,505.29	6,508.19	6,493.29	98.40	15.01	82.20	172.05	-2,422.36	1,125.56	1,013.71	111.85	10.063		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation





**Sharewell Energy Services**  
Anticollision Report



<b>Company:</b>	Bill Barrett Corp.	<b>Local Co-ordinate Reference:</b>	Well #13H-13-45 BTR
<b>Project:</b>	Duchesne Co., UT (NAD27)	<b>TVD Reference:</b>	WELL @ 6058.00usft
<b>Reference Site:</b>	Sec.13-T4S-R5W	<b>MD Reference:</b>	WELL @ 6058.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	#13H-13-45 BTR	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	EDM 5000.1 Single User Db
<b>Reference Design:</b>	Design #1	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> Sec.13-T4S-R5W - #14-13D-45 BTR - Wellbore #1 - Design #1												<b>Offset Site Error:</b>	0.00 usft
Survey Program: 0-MWD												<b>Offset Well Error:</b>	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
10,000.00	6,503.81	6,506.71	6,491.81	101.16	15.01	81.51	172.05	-2,422.36	1,225.01	1,110.59	114.42	10.706	
10,054.63	6,503.00	6,505.90	6,491.00	102.67	15.01	81.14	172.05	-2,422.36	1,279.38	1,163.56	115.82	11.046	



<b>Company:</b>	Bill Barrett Corp.	<b>Local Co-ordinate Reference:</b>	Well #13H-13-45 BTR
<b>Project:</b>	Duchesne Co., UT (NAD27)	<b>TVD Reference:</b>	WELL @ 6058.00usft
<b>Reference Site:</b>	Sec.13-T4S-R5W	<b>MD Reference:</b>	WELL @ 6058.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	#13H-13-45 BTR	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	EDM 5000.1 Single User Db
<b>Reference Design:</b>	Design #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Sec.13-T4S-R5W - #16-13D-45 BTR - Wellbore #1 - Design #1		Offset Site Error:		0.00 usft
Survey Program: 0-MWD													Offset Well Error:		0.00 usft		
Reference		Offset		Semi Major Axis			Distance							Warning			
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor					
(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(°)	+N/-S (usft)	+E/-W (usft)	(usft)	(usft)	(usft)						
0.00	0.00	0.00	0.00	0.00	0.00	0.00	15.30	0.00	15.33								
100.00	100.00	99.00	99.00	0.10	0.09	0.00	15.30	0.00	15.30	15.11	0.19	80.479					
200.00	200.00	199.00	199.00	0.32	0.32	0.00	15.30	0.00	15.30	14.66	0.64	23.967					
300.00	300.00	299.00	299.00	0.55	0.54	0.00	15.30	0.00	15.30	14.21	1.09	14.063					
400.00	400.00	399.00	399.00	0.77	0.77	0.00	15.30	0.00	15.30	13.76	1.54	9.951					
500.00	500.00	499.00	499.00	0.99	0.99	0.00	15.30	0.00	15.30	13.31	1.99	7.700					
600.00	600.00	599.00	599.00	1.22	1.22	0.00	15.30	0.00	15.30	12.86	2.44	6.279					
700.00	700.00	699.00	699.00	1.44	1.44	0.00	15.30	0.00	15.30	12.41	2.89	5.301					
800.00	800.00	799.00	799.00	1.67	1.67	0.00	15.30	0.00	15.30	11.96	3.34	4.587					
900.00	900.00	899.00	899.00	1.89	1.89	0.00	15.30	0.00	15.30	11.51	3.79	4.042					
1,000.00	1,000.00	999.00	999.00	2.12	2.12	0.00	15.30	0.00	15.30	11.06	4.23	3.613					
1,100.00	1,100.00	1,099.00	1,099.00	2.34	2.34	0.00	15.30	0.00	15.30	10.61	4.68	3.266					
1,200.00	1,200.00	1,199.00	1,199.00	2.57	2.57	0.00	15.30	0.00	15.30	10.17	5.13	2.980					
1,300.00	1,300.00	1,299.00	1,299.00	2.79	2.79	0.00	15.30	0.00	15.30	9.72	5.58	2.740					
1,400.00	1,400.00	1,399.00	1,399.00	3.02	3.02	0.00	15.30	0.00	15.30	9.27	6.03	2.536					
1,500.00	1,500.00	1,499.00	1,499.00	3.24	3.24	0.00	15.30	0.00	15.30	8.82	6.48	2.360					
1,600.00	1,600.00	1,599.00	1,599.00	3.47	3.46	0.00	15.30	0.00	15.30	8.37	6.93	2.207					
1,700.00	1,700.00	1,699.00	1,699.00	3.69	3.69	0.00	15.30	0.00	15.30	7.92	7.38	2.073					
1,800.00	1,800.00	1,799.00	1,799.00	3.92	3.91	0.00	15.30	0.00	15.30	7.47	7.83	1.954					
1,900.00	1,900.00	1,899.00	1,899.00	4.14	4.14	0.00	15.30	0.00	15.30	7.02	8.28	1.848					
2,000.00	2,000.00	1,999.00	1,999.00	4.37	4.36	0.00	15.30	0.00	15.30	6.57	8.73	1.752					
2,100.00	2,100.00	2,099.00	2,099.00	4.59	4.59	0.00	15.30	0.00	15.30	6.12	9.18	1.667					
2,200.00	2,200.00	2,199.00	2,199.00	4.82	4.81	0.00	15.30	0.00	15.30	5.67	9.63	1.589					
2,300.00	2,300.00	2,299.00	2,299.00	5.04	5.04	0.00	15.30	0.00	15.30	5.22	10.08	1.518					
2,400.00	2,400.00	2,399.00	2,399.00	5.27	5.26	0.00	15.30	0.00	15.30	4.77	10.53	1.453	Level 3, CC, ES, SF				
2,500.00	2,500.00	2,498.59	2,498.58	5.49	5.49	1.05	16.53	0.30	16.54	5.57	10.98	1.507					
2,600.00	2,600.00	2,598.05	2,597.96	5.71	5.71	3.46	20.28	1.23	20.35	8.93	11.42	1.781					
2,700.00	2,700.00	2,697.60	2,697.32	5.94	5.93	5.86	26.21	2.69	26.40	14.53	11.87	2.224					
2,800.00	2,800.00	2,797.39	2,796.91	6.16	6.16	7.42	32.43	4.22	32.77	20.46	12.32	2.661					
2,900.00	2,900.00	2,897.18	2,896.49	6.39	6.38	8.47	38.66	5.76	39.17	26.40	12.77	3.068					
3,000.00	3,000.00	2,996.98	2,996.08	6.61	6.61	9.23	44.89	7.29	45.57	32.35	13.22	3.447					
3,100.00	3,100.00	3,096.77	3,095.67	6.84	6.84	9.80	51.11	8.83	51.98	38.30	13.67	3.801					
3,200.00	3,200.00	3,196.56	3,195.26	7.06	7.07	10.24	57.34	10.36	58.39	44.26	14.13	4.133					
3,300.00	3,300.00	3,296.36	3,294.84	7.29	7.30	10.60	63.57	11.89	64.81	50.22	14.59	4.443					
3,400.00	3,400.00	3,396.15	3,394.43	7.51	7.53	10.89	69.80	13.43	71.22	56.18	15.04	4.735					
3,500.00	3,500.00	3,495.94	3,494.02	7.74	7.77	11.13	76.02	14.96	77.64	62.14	15.50	5.008					
3,600.00	3,600.00	3,595.74	3,593.60	7.96	8.00	11.34	82.25	16.50	84.06	68.10	15.96	5.266					
3,700.00	3,700.00	3,695.53	3,693.19	8.19	8.24	11.52	88.48	18.03	90.48	74.06	16.42	5.510					
3,800.00	3,800.00	3,795.32	3,792.78	8.41	8.48	11.67	94.70	19.57	96.90	80.02	16.88	5.739					
3,900.00	3,900.00	3,895.12	3,892.36	8.64	8.71	11.81	100.93	21.10	103.33	85.98	17.35	5.957					
4,000.00	4,000.00	3,994.91	3,991.95	8.86	8.95	11.93	107.16	22.63	109.75	91.94	17.81	6.162					
4,100.00	4,100.00	4,094.70	4,091.54	9.09	9.19	12.03	113.38	24.17	116.17	97.90	18.27	6.357					
4,200.00	4,200.00	4,194.50	4,191.13	9.31	9.43	12.13	119.61	25.70	122.59	103.86	18.74	6.543					
4,300.00	4,300.00	4,294.29	4,290.71	9.54	9.67	12.21	125.84	27.24	129.02	109.82	19.20	6.719					
4,400.00	4,400.00	4,394.08	4,390.30	9.76	9.91	12.29	132.06	28.77	135.44	115.78	19.67	6.887					
4,500.00	4,500.00	4,493.88	4,489.89	9.99	10.15	12.36	138.29	30.31	141.87	121.73	20.13	7.046					
4,600.00	4,600.00	4,593.67	4,589.47	10.21	10.39	12.42	144.52	31.84	148.29	127.69	20.60	7.199					
4,700.00	4,700.00	4,693.46	4,689.06	10.43	10.64	12.48	150.75	33.37	154.72	133.65	21.07	7.344					
4,800.00	4,800.00	4,793.26	4,788.65	10.66	10.88	12.54	156.97	34.91	161.14	139.61	21.53	7.484					
4,900.00	4,900.00	4,893.05	4,888.23	10.88	11.12	12.59	163.20	36.44	167.57	145.57	22.00	7.617					
5,000.00	5,000.00	4,992.84	4,987.82	11.11	11.36	12.63	169.43	37.98	173.99	151.52	22.47	7.744					
5,100.00	5,100.00	5,092.64	5,087.41	11.33	11.61	12.68	175.65	39.51	180.42	157.48	22.94	7.866					

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation





# Sharewell Energy Services

## Anticollision Report



<b>Company:</b>	Bill Barrett Corp.	<b>Local Co-ordinate Reference:</b>	Well #13H-13-45 BTR
<b>Project:</b>	Duchesne Co., UT (NAD27)	<b>TVD Reference:</b>	WELL @ 6058.00usft
<b>Reference Site:</b>	Sec.13-T4S-R5W	<b>MD Reference:</b>	WELL @ 6058.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	#13H-13-45 BTR	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	EDM 5000.1 Single User Db
<b>Reference Design:</b>	Design #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Sec.13-T4S-R5W - #16-13D-45 BTR - Wellbore #1 - Design #1		Offset Site Error:		0.00 usft
Survey Program: 0-MWD													Offset Well Error:		0.00 usft		
Reference		Offset		Semi Major Axis			Distance							Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor					
5,200.00	5,200.00	5,192.43	5,187.00	11.56	11.85	12.72	181.88	41.05	186.84	163.44	23.40	7.983					
5,300.00	5,300.00	5,295.16	5,289.54	11.78	12.09	12.75	187.86	42.52	192.85	168.98	23.86	8.082					
5,400.00	5,400.00	5,400.46	5,394.77	12.01	12.28	12.77	191.47	43.41	196.38	172.10	24.28	8.089					
5,500.00	5,500.00	5,504.70	5,499.00	12.23	12.46	12.78	192.33	43.62	197.22	172.53	24.69	7.989					
5,600.00	5,600.00	5,604.70	5,599.00	12.46	12.68	12.78	192.33	43.62	197.22	172.09	25.13	7.849					
5,700.00	5,700.00	5,704.70	5,699.00	12.68	12.89	12.78	192.33	43.62	197.22	171.65	25.57	7.713					
5,800.00	5,800.00	5,804.70	5,799.00	12.91	13.11	12.78	192.33	43.62	197.22	171.21	26.01	7.582					
5,900.00	5,900.00	5,904.70	5,899.00	13.13	13.33	12.78	192.33	43.62	197.22	170.76	26.45	7.456					
6,000.00	6,000.00	6,004.70	5,999.00	13.36	13.54	12.78	192.33	43.62	197.22	170.32	26.89	7.333					
6,073.42	6,073.42	6,078.12	6,072.42	13.52	13.70	12.78	192.33	43.62	197.22	170.00	27.22	7.246					
6,075.00	6,075.00	6,079.70	6,074.00	13.53	13.71	96.78	192.33	43.62	197.22	170.25	26.97	7.313					
6,100.00	6,099.99	6,104.68	6,098.99	13.58	13.76	96.98	192.33	43.62	197.30	170.23	27.07	7.288					
6,125.00	6,124.90	6,129.60	6,123.90	13.63	13.82	97.54	192.33	43.62	197.56	170.39	27.17	7.271					
6,150.00	6,149.67	6,154.37	6,148.67	13.68	13.87	98.43	192.33	43.62	198.03	170.76	27.27	7.261					
6,175.00	6,174.24	6,178.93	6,173.24	13.73	13.92	99.64	192.33	43.62	198.77	171.41	27.37	7.263					
6,200.00	6,198.52	6,203.22	6,197.52	13.78	13.98	101.14	192.33	43.62	199.87	172.41	27.46	7.279					
6,225.00	6,222.47	6,227.16	6,221.47	13.84	14.03	102.88	192.33	43.62	201.43	173.89	27.54	7.315					
6,250.00	6,246.00	6,250.70	6,245.00	13.90	14.08	104.82	192.33	43.62	203.57	175.97	27.60	7.376					
6,275.00	6,269.06	6,273.76	6,268.06	13.96	14.13	106.89	192.33	43.62	206.41	178.77	27.64	7.467					
6,300.00	6,291.59	6,296.29	6,290.59	14.03	14.18	109.05	192.33	43.62	210.08	182.42	27.66	7.596					
6,325.00	6,313.52	6,318.21	6,312.52	14.10	14.23	111.23	192.33	43.62	214.72	187.07	27.64	7.768					
6,350.00	6,334.79	6,339.49	6,333.79	14.18	14.27	113.38	192.33	43.62	220.43	192.83	27.59	7.988					
6,375.00	6,355.34	6,360.04	6,354.34	14.27	14.32	115.43	192.33	43.62	227.31	199.79	27.51	8.261					
6,400.00	6,375.12	6,379.82	6,374.12	14.36	14.36	117.35	192.33	43.62	235.43	208.03	27.40	8.591					
6,425.00	6,394.08	6,398.77	6,393.08	14.47	14.40	119.08	192.33	43.62	244.86	217.59	27.27	8.979					
6,450.00	6,412.15	6,416.85	6,411.15	14.60	14.44	120.59	192.33	43.62	255.59	228.47	27.12	9.424					
6,475.00	6,429.30	6,434.00	6,428.30	14.74	14.48	121.84	192.33	43.62	267.64	240.67	26.97	9.923					
6,500.00	6,445.47	6,450.17	6,444.47	14.90	14.51	122.82	192.33	43.62	280.98	254.15	26.84	10.470					
6,525.00	6,460.62	6,465.32	6,459.62	15.07	14.55	123.48	192.33	43.62	295.57	268.83	26.74	11.055					
6,550.00	6,474.71	6,479.41	6,473.71	15.27	14.58	123.81	192.33	43.62	311.33	284.64	26.69	11.665					
6,575.00	6,487.70	6,492.40	6,486.70	15.49	14.61	123.77	192.33	43.62	328.21	301.49	26.72	12.284					
6,600.00	6,499.56	6,504.25	6,498.56	15.73	14.63	123.32	192.33	43.62	346.12	319.27	26.85	12.891					
6,625.00	6,510.25	6,514.94	6,509.25	16.00	14.66	122.41	192.33	43.62	364.98	337.87	27.10	13.466					
6,650.00	6,519.74	6,524.43	6,518.74	16.29	14.68	120.99	192.33	43.62	384.69	357.18	27.51	13.986					
6,675.00	6,528.00	6,532.70	6,527.00	16.60	14.69	118.99	192.33	43.62	405.17	377.10	28.07	14.434					
6,700.00	6,535.02	6,539.72	6,534.02	16.94	14.71	116.30	192.33	43.62	426.33	397.52	28.81	14.798					
6,725.00	6,540.78	6,545.47	6,539.78	17.29	14.72	112.84	192.33	43.62	448.08	418.37	29.71	15.081					
6,750.00	6,545.25	6,549.95	6,544.25	17.67	14.73	108.49	192.33	43.62	470.32	439.59	30.74	15.302					
6,775.00	6,548.43	6,553.13	6,547.43	18.07	14.74	103.16	192.33	43.62	492.97	461.18	31.80	15.504					
6,800.00	6,550.31	6,555.01	6,549.31	18.48	14.74	96.81	192.33	43.62	515.94	483.19	32.76	15.752					
6,825.00	6,550.88	6,555.58	6,549.88	18.91	14.74	89.51	192.33	43.62	539.15	505.73	33.42	16.132					
6,830.50	6,550.83	6,555.53	6,549.83	19.00	14.74	87.80	192.33	43.62	544.28	510.77	33.51	16.243					
6,900.00	6,549.80	6,554.50	6,548.80	20.26	14.74	87.29	192.33	43.62	609.89	575.13	34.76	17.546					
7,000.00	6,548.32	6,553.01	6,547.32	22.24	14.74	86.36	192.33	43.62	706.36	669.66	36.70	19.246					
7,100.00	6,546.83	6,551.53	6,545.83	24.37	14.74	85.00	192.33	43.62	804.39	765.64	38.75	20.761					
7,130.47	6,546.38	6,551.07	6,545.38	25.04	14.73	84.45	192.33	43.62	834.47	795.09	39.38	21.192					
7,200.00	6,545.35	6,550.04	6,544.35	26.61	14.73	83.99	192.33	43.62	903.25	862.34	40.92	22.075					
7,300.00	6,543.86	6,548.56	6,542.86	28.95	14.73	83.32	192.33	43.62	1,002.36	959.15	43.21	23.199					
7,400.00	6,542.38	6,547.08	6,541.38	31.37	14.73	82.66	192.33	43.62	1,101.63	1,056.07	45.56	24.182					
7,500.00	6,540.90	6,545.59	6,539.90	33.84	14.72	81.99	192.33	43.62	1,201.02	1,153.07	47.95	25.048					
7,600.00	6,539.41	6,544.11	6,538.41	36.35	14.72	81.33	192.33	43.62	1,300.50	1,250.12	50.37	25.817					
7,700.00	6,537.93	6,542.62	6,536.93	38.91	14.72	80.68	192.33	43.62	1,400.05	1,347.23	52.82	26.506					

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



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<b>Reference Site:</b>	Sec.13-T4S-R5W	<b>MD Reference:</b>	WELL @ 6058.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	#13H-13-45 BTR	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	EDM 5000.1 Single User Db
<b>Reference Design:</b>	Design #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design												Offset Site Error:	0.00 usft
Survey Program: 0-MWD												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
7,800.00	6,536.45	6,541.14	6,535.45	41.49	14.71	80.02	192.33	43.62	1,499.66	1,444.38	55.28	27.129	
7,900.00	6,534.96	6,539.66	6,533.96	44.09	14.71	79.37	192.33	43.62	1,599.32	1,541.57	57.75	27.695	
8,000.00	6,533.48	6,538.17	6,532.48	46.72	14.71	78.72	192.33	43.62	1,699.01	1,638.79	60.22	28.214	
8,100.00	6,532.00	6,536.69	6,531.00	49.36	14.70	78.07	192.33	43.62	1,798.74	1,736.05	62.69	28.693	
8,200.00	6,530.51	6,535.21	6,529.51	52.02	14.70	77.43	192.33	43.62	1,898.50	1,833.34	65.16	29.137	
8,300.00	6,529.03	6,533.72	6,528.03	54.69	14.70	76.79	192.33	43.62	1,998.28	1,930.66	67.62	29.553	
8,400.00	6,527.55	6,532.24	6,526.55	57.37	14.69	76.15	192.33	43.62	2,098.08	2,028.01	70.07	29.943	
8,500.00	6,526.06	6,530.76	6,525.06	60.06	14.69	75.51	192.33	43.62	2,197.89	2,125.39	72.51	30.312	
8,600.00	6,524.58	6,529.27	6,523.58	62.76	14.69	74.88	192.33	43.62	2,297.73	2,222.79	74.94	30.663	
8,700.00	6,523.09	6,527.79	6,522.09	65.46	14.68	74.26	192.33	43.62	2,397.57	2,320.22	77.35	30.997	
8,800.00	6,521.61	6,526.31	6,520.61	68.17	14.68	73.63	192.33	43.62	2,497.43	2,417.68	79.75	31.318	
8,848.79	6,520.89	6,525.58	6,519.89	69.50	14.68	73.33	192.33	43.62	2,546.15	2,465.25	80.91	31.469	
8,900.00	6,520.13	6,524.82	6,519.13	70.89	14.68	77.39	192.33	43.62	2,597.27	2,513.67	83.59	31.070	
9,000.00	6,518.64	6,523.34	6,517.64	73.62	14.67	81.42	192.33	43.62	2,696.92	2,609.70	87.22	30.922	
9,082.52	6,517.42	6,522.11	6,516.42	75.88	14.67	83.19	192.33	43.62	2,778.92	2,689.24	89.68	30.986	
9,100.00	6,517.16	6,521.85	6,516.16	76.36	14.67	83.14	192.33	43.62	2,796.26	2,706.11	90.15	31.017	
9,200.00	6,515.68	6,520.37	6,514.68	79.10	14.67	82.90	192.33	43.62	2,895.53	2,802.69	92.84	31.189	
9,300.00	6,514.19	6,518.89	6,513.19	81.85	14.66	82.65	192.33	43.62	2,994.84	2,899.32	95.52	31.353	
9,400.00	6,512.71	6,517.40	6,511.71	84.60	14.66	82.41	192.33	43.62	3,094.19	2,995.99	98.20	31.508	
9,500.00	6,511.23	6,515.92	6,510.23	87.35	14.66	82.17	192.33	43.62	3,193.59	3,092.70	100.88	31.656	
9,600.00	6,509.74	6,514.44	6,508.74	90.11	14.65	81.92	192.33	43.62	3,293.02	3,189.45	103.56	31.797	
9,700.00	6,508.26	6,512.95	6,507.26	92.87	14.65	81.68	192.33	43.62	3,392.48	3,286.24	106.24	31.932	
9,800.00	6,506.77	6,511.47	6,505.77	95.63	14.65	81.44	192.33	43.62	3,491.97	3,383.06	108.92	32.061	
9,900.00	6,505.29	6,509.99	6,504.29	98.40	14.64	81.19	192.33	43.62	3,591.49	3,479.90	111.59	32.185	
10,000.00	6,503.81	6,508.50	6,502.81	101.16	14.64	80.95	192.33	43.62	3,691.04	3,576.78	114.26	32.305	
10,054.63	6,503.00	6,507.69	6,502.00	102.67	14.64	80.82	192.33	43.62	3,745.43	3,629.72	115.71	32.368	





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<b>Reference Site:</b>	Sec.13-T4S-R5W	<b>MD Reference:</b>	WELL @ 6058.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	#13H-13-45 BTR	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	EDM 5000.1 Single User Db
<b>Reference Design:</b>	Design #1	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 6058.00usft

Offset Depths are relative to Offset Datum

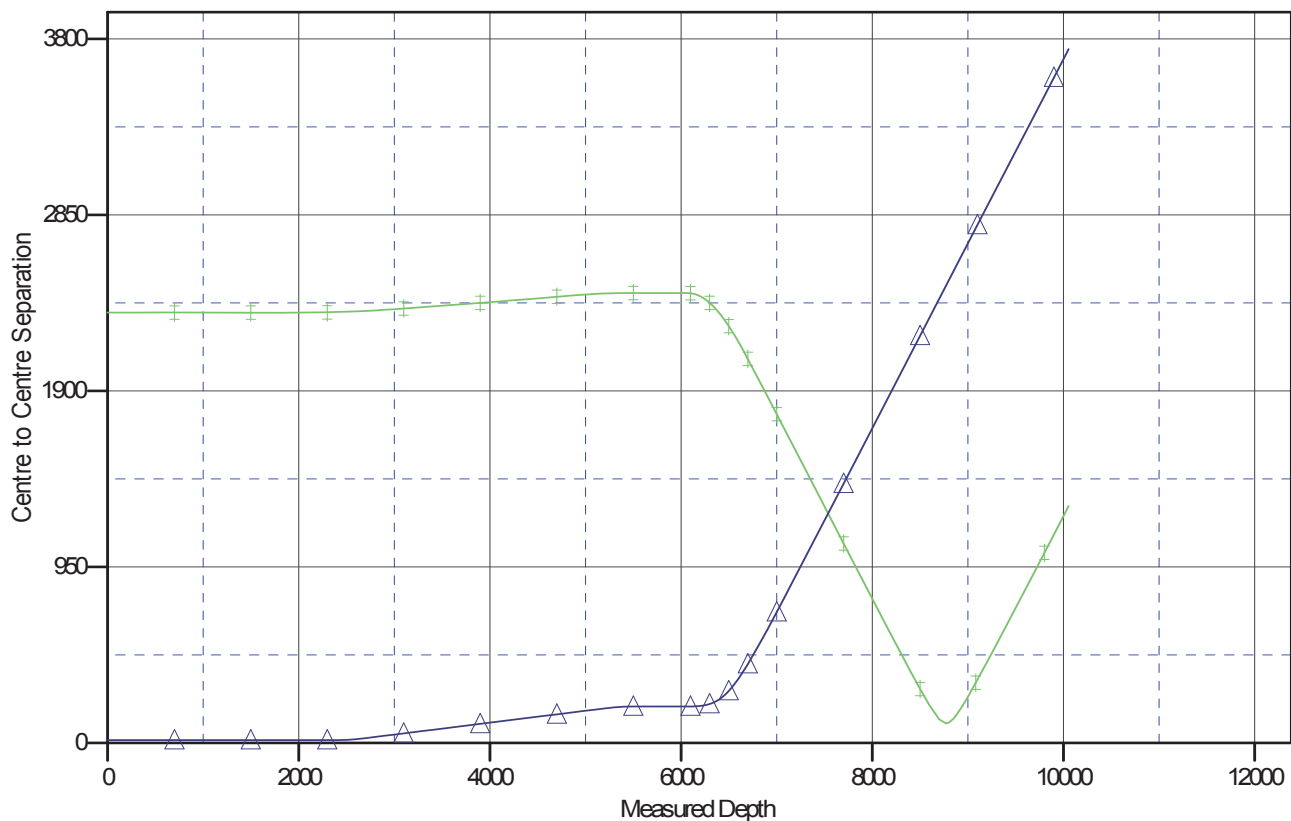
Central Meridian is 111° 30' 0.000 W

Coordinates are relative to: #13H-13-45 BTR

Coordinate System is US State Plane 1927 (Exact solution), Utah Central 4302

Grid Convergence at Surface is: 0.71°

## Ladder Plot



## LEGEND

+ #14-13D-45 BTR, Wellbore #1, Design #1 V0
 ▲ #16-13D-45 BTR, Wellbore #1, Design #1 V0

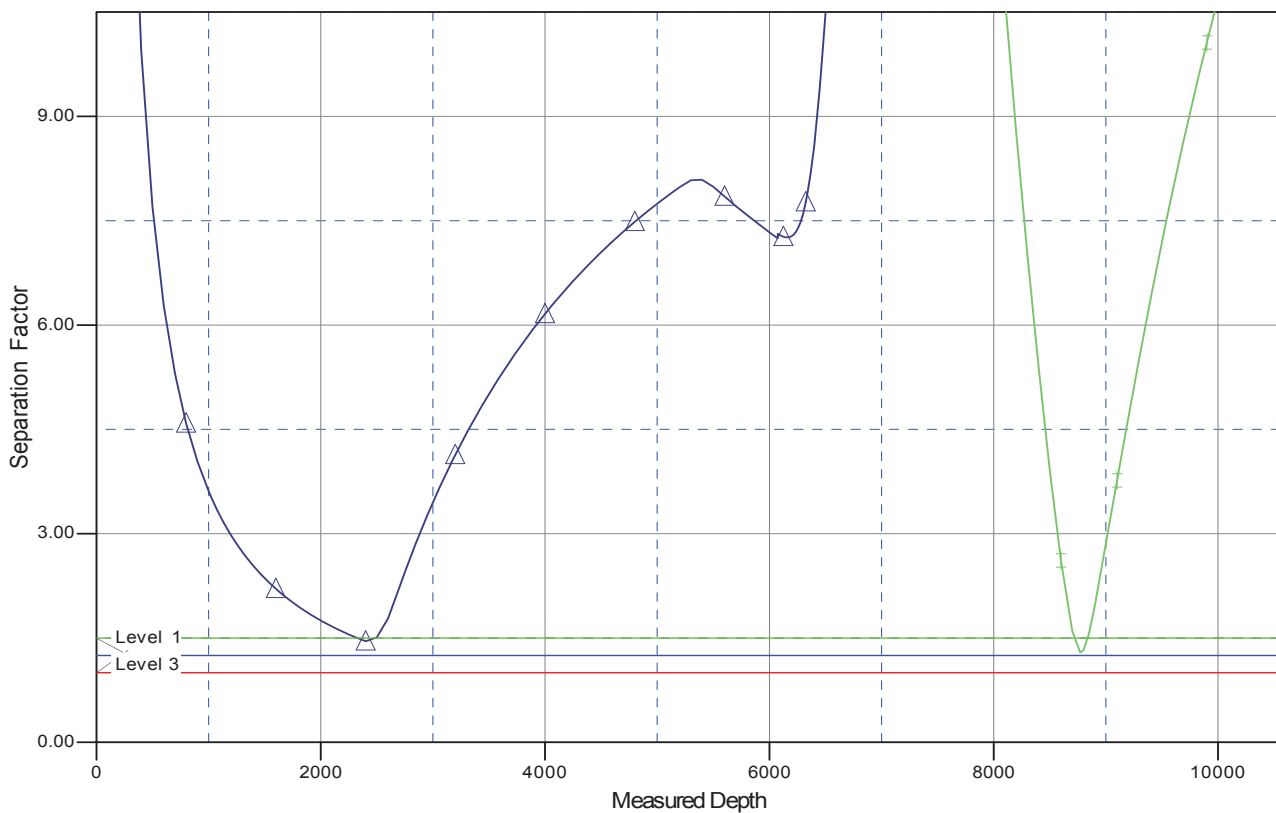


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<b>Project:</b>	Duchesne Co., UT (NAD27)	<b>TVD Reference:</b>	WELL @ 6058.00usft
<b>Reference Site:</b>	Sec.13-T4S-R5W	<b>MD Reference:</b>	WELL @ 6058.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	#13H-13-45 BTR	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	EDM 5000.1 Single User Db
<b>Reference Design:</b>	Design #1	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 6058.00usft  
Offset Depths are relative to Offset Datum  
Central Meridian is 111° 30' 0.000 W

Coordinates are relative to: #13H-13-45 BTR  
Coordinate System is US State Plane 1927 (Exact solution), Utah Central 4302  
Grid Convergence at Surface is: 0.71°

## Separation Factor Plot



### LEGEND

+ #14-13D-45 BTR, Wellbore #1, Design #1 V0    
 ▲ #16-13D-45 BTR, Wellbore #1, Design #1 V0



## **SURFACE USE PLAN**

### **BILL BARRETT CORPORATION** **16-13D-45 & 13H-13-45 BTR Pad** **Duchesne County, Utah**

<b><u>16-13D-45 BTR</u></b>	<b><u>13H-13-45 BTR</u></b>
SESE, 633' FSL & 854' FEL, Sec. 13, T4S-R5W (surface hole) SESE, 810' FSL & 810' FEL, Sec. 13, T4S-R5W (bottom hole)	SESE, 617' FSL & 854' FEL, Sec. 13, T4S-R5W (surface hole) SWSW, 810' FSL & 700' FWL, Sec. 13, T4S-R5W (bottom hole)

The onsite inspection for this pad occurred on February 1, 2012. This is a new pad with two proposed wells. Plat changes and site specific stipulations requested at the onsite are reflected within this APD and summarized below.

- a) Relocated road entrance west 25 feet to maximize interim reclamation;
- b) Relocated production equipment to the access entrance to maximize interim reclamation;

The excavation contractor would be provided with an approved copy of the surface use plan of operations before initiating construction.

1. **Existing Roads:**

- a. The proposed well site is located approximately 4.5 miles south of Duchesne, Utah. Maps and directions reflecting the route to the proposed well site are included (see Topographic maps A and B).
- b. The existing State maintained Highway 191 would be utilized from Duchesne for 2.3 miles to the existing Duchesne County maintained Sowers Canyon Road. The Sowers Canyon Road would be utilized for 1.8 miles to the planned new access road.
- c. Project roads would require routine year-round maintenance to provide year-round access. Maintenance would include inspections, reduction of ruts and holes, maintenance to keep water off the road, replacement of surfacing materials, and clearing of sediment blocking ditches and culverts. Should snow removal become necessary, roads would be cleared with a motor grader and snow would be stored along the down gradient side to prohibit runoff onto the road. Aggregate would be used as necessary to maintain a solid running surface and minimize dust generation.
- d. Vehicle operators would obey posted speed restrictions and observe safe speeds commensurate with road and weather conditions. Travel would be limited to the existing access roads and proposed access road.
- e. The use of roads under Utah State and Duchesne County maintenance are necessary to access the project area with no improvements proposed. A Duchesne County Road Department access encroachment has been obtained.

Bill Barrett Corporation  
Surface Use Plan  
16-13D-45 & 13H-13-45 BTR Pad  
Duchesne County, UT

- f. All existing roads would be maintained and kept in good repair during all phases of operation.

2. Planned Access Road:

- a. Approximately 1,901 feet of new access road is planned from the Duchesne County maintained Sowers Canyon road (see Topographic Map B). The proposed access road crosses entirely Ute Tribe surface.
- b. The planned access road would be constructed to a 30-foot ROW width with an 18-foot travel surface. See section 12.d. below for disturbance estimates.
- c. New road construction and improvements of existing roads would typically require the use of motor graders, crawler tractors, 10-yard end dump trucks, and water trucks. The standard methodology for building new roads involves the use of a crawler tractor or track hoe to windrow the vegetation to one side of the road corridor, remove topsoil to the opposing side of the corridor, and rough-in the roadway. This is followed by a grader or bulldozer to establish barrow ditches and crown the road surface. Where culverts are required, a track hoe or backhoe would trench the road and install the culverts. Some hand labor would be required when installing and armoring culverts. Road base or gravel in some instances would be necessary and would be hauled in and a grader used to smooth the running surface.
- d. The proposed road would be constructed to facilitate drainage, control erosion and minimize visual impacts by following natural contours where practical. No unnecessary side-casting of material would occur on steep slopes.
- e. A maximum grade of 10% would be maintained throughout the project with minimum cuts and fills, as necessary, to access the well.
- f. Excess rock from construction of the pad may be used for surfacing of the access road if necessary. Any additional aggregate necessary would be obtained from private or State of Utah lands in conformance with applicable regulations. Aggregate would be of sufficient size, type, and amount to allow all weather access and alleviate dust.
- g. Where topsoil removal is necessary, it would be windrowed (i.e. stockpiled/accumulated along the edge of the ROW and in a low row/pile parallel with the ROW) and re-spread over the disturbed area after construction and backfilling are completed. Vegetation removed from the disturbed area would also be re-spread to provide protection, nutrient recycling, and a seed source for reclamation.
- h. Turnouts are not proposed.

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- i. No culverts and no low-water crossings are anticipated. Adequate drainage structures, where necessary, would be incorporated into the remainder of the road to prevent soil erosion and accommodate all-weather traffic.
- j. No gates or cattle guards are anticipated at this time.
- k. Surface disturbance and vehicular travel would be limited to the approved location access road. Adequate signs would be posted, as necessary, to warn the public of project related traffic.
- l. All access roads and surface disturbing activities would conform to the appropriate standard, **no higher than necessary**, to accommodate their intended function adequately as outlined in the Bureau of Land Management and Forest Service publication: Surface Operating Standards for Oil and Gas Exploration and Development, Fourth Edition – Revised 2007.
- m. The operator would be responsible for all maintenance needs of the new access road.

3. Location of Existing Wells (see One-Mile Radius Map):

- a. Following is a list of wells with surface hole locations within a one-mile radius of the proposed pad:
  - i. water wells none
  - ii. injection wells none
  - iii. disposal wells none
  - iv. drilling wells none
  - v. temp shut-in wells none
  - vi. producing wells two
  - vii. abandoned wells three

4. Location of Production Facilities

- a. Surface facilities would consist of a wellhead, separator, gas meter, combustor, (1) 500 gal methanol tank, (1) 500 glycol tank, (3) 500 bbl oil tanks, (1) 500 bbl water tank, (1) 500 bbl test tank, (1) 1000 gal propane tank, a pumping unit or Roto-flex unit or ESP or gas lift unit, electrical or with a natural gas or diesel fired motor, solar panels, solar chemical and methanol pumps and one trace pump. See attached proposed facility diagram.
- b. Most wells would be fitted with a pump jack or Roto-flex unit or ESP or gas lift to assist liquid production. The prime mover for pump jacks or Roto-flex units would be small (100 horsepower or less), electric motor or natural gas or diesel fired internal combustion engines. If a gas lift is installed, it would be set on a 10 ft x 25 ft pad and the prime mover would be a natural gas-fired internal combustion engine rated at 200 horsepower or less or an electric compressor of similar horsepower powered by electricity.



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- c. The tank battery would be surrounded by a secondary containment berm of sufficient capacity to contain 1.1 times the entire capacity of the largest single tank and sufficient freeboard to contain precipitation. All loading lines and valves would be placed inside the berm surrounding the tank battery or would utilize catchment basins to contain spills. All liquid hydrocarbon production and measurement shall conform to the provisions of 43 CFR 3162.7-2 and Onshore Oil and Gas Order No. 4 for the measurement of oil.
- d. Gas meter run(s) would be constructed and located on lease within 500 feet of the wellheads. Meter runs would be housed and/or fenced. As practicably feasible, meters would be equipped with remote telemetry monitoring systems. All gas production and measurement shall comply with the provisions of 43 CFR 3162.7-3, Onshore Oil and Gas Order No. 5, and American Gas Association (AGA) Report No. 3.
- e. A combustor may be installed at this location for control of associated condensate tank emissions. A combustor ranges from 24 inches to 48 inches wide and is approximately 27 ft tall. Combustor placement would be on existing disturbance.
- f. Approximately 1,775 feet of pipeline corridor containing up to three lines (one gas pipeline up to 8 inch in diameter, one water line up to 4 inch in diameter and one residue line up to 4 inch in diameter) is proposed traversing west to the proposed 14-13D-45 BTR pipeline corridor. The proposed 14-13D-45 BTR pipeline corridor continues an additional 9,307 feet west to an existing BBC maintained pipeline corridor (see Topographic Map C). Pipelines would be constructed of steel, polyethylene or fiberglass and would connect to the proposed pipeline servicing nearby BBC wells. The pipeline crosses entirely Ute Tribe surface.
- g. The new segment of gas pipeline would be surface laid within a 30 foot wide pipeline corridor adjacent to the proposed access road. See 12.d below for disturbance estimates.
- h. Construction of the ROW would temporarily utilize the 30 foot disturbed width for the road for a total disturbed width of 60 foot for the road and pipeline corridors. The use of the proposed well site and access roads would facilitate the staging of the pipeline construction.
- i. Pipeline construction methods and practices would be planned and conducted by BBC with the objective of enhancing reclamation and fostering the re-establishment of the native plant community.
- j. All permanent above-ground structures would be painted a flat, non-reflective color, such as Beetle Green, to match the standard environmental colors. All facilities would be painted the designated color at the time of installation.

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Facilities required to comply with the Occupational Safety and Health Act (OSHA) may be excluded.

- k. Site security guidelines identified in 43 CFR 3162.7-5 and Onshore Oil and Gas Order No. 3 would be adhered to. Any modifications to proposed facilities would be reflected in the site security diagram submitted.
- l. The site would require periodic maintenance to ensure that drainages are kept open and free of debris, and that surfaces are properly treated to reduce erosion, fugitive dust, and impacts to adjacent areas.

5. Location and Type of Water Supply:

- a. Water for the drilling and completion would be trucked from any of the following locations:

Water Right No. and Application or Change No.	Applicant	Allocation	Date	Point of Diversion	Source
43-180	Duchesne City Water Service District	5 cfs	8/13/2004	Knight Diversion Dam	Duchesne River
43-1202, Change a13837	Myton City	5.49 cfr and 3967 acre feet	3/21/1986	Knight Diversion Dam	Duchesne River
43-10444, Appln A57477	Duchesne County Upper Country Water	2 cfs	1994	Ditch at Source	Cow Canyon Spring
43-10446, Appln F57432	Duchesne County Upper Country Water	1.58 cfs	1994	Ditch at Source	Cow Canyon Spring
43-1273, Appln A17462	J.J.N.P. Company	7 cfs	1946	Strawberry River	Strawberry River
43-1273, Appln t36590	J.J.N.P. Company	4 cfs	6/03/2010	Strawberry River	Strawberry River
43-2505, Appln t37379	McKinnon Ranch Properties, LC	1.3 cfs	4/28/2011	Pumped from Sec, 17, T4SR6W	Water Canyon Lake
43-12415, Change A17215a	Peatross Ranch, LLC	1.89 cfs	09/2011	Dugout Pond	Strawberry River

- b. No new water well is proposed with this application.
- c. Should additional water sources be pursued they would be properly permitted through the State of Utah – Division of Water Rights.

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- d. Water use would vary in accordance with the formations to be drilled but would be up to approximately 5.41 acre feet for drilling and completion operations.

6. Source of Construction Material:

- a. The use of materials would conform to 43 CFR 3610.2-3.
- b. No construction materials would be removed from the lease or EDA area.
- c. If any additional gravel is required, it would be obtained from a local supplier having a permitted source of materials within the general area.

7. Methods of Handling Waste Disposal:

- a. All wastes associated with this application would be contained and disposed of utilizing approved facilities.
- b. The reserve pit would be constructed so as not to leak, break or allow any discharge.
- c. The reserve would be lined with 12 mil (minimum) thickness polyethylene nylon reinforced liner material. The liner(s) would overlay straw, dirt and/or bentonite if rock is encountered during excavation. The liner would overlap the pit walls and be covered with dirt and/or rocks to hold them in place. No trash, scrap pipe, or other materials that could puncture the liner would be discarded in the pit. A minimum of two feet of free board would be maintained between the maximum fluid level and the top of the reserve pit at all times.
- d. To deter livestock from entering the pit, the three sides exterior to the location would be fenced before drilling starts. Following the conclusion of drilling and completion activities, the fourth side would also be fenced.
- e. Drill cuttings would be contained in the pit and buried on-site for a period not to exceed six months, weather permitting
- f. Produced fluids from the well other than water would be decanted into steel test tank(s) until such time as construction of production facilities is completed. Any oil that may be accumulated would be transferred to a permanent production tank. Produced water may be used in further drilling and completion activities, evaporated in the pit, or would be hauled to one of the following state-approved disposal facilities:

Disposal Facilities
1. RNI Industries, Inc. – Pleasant Valley Disposal Pits, Sec. 25, 26, 35 & 36, T4S-R3W
2. Pro Water LLC – Blue Bench 13-1 Disposal Well (43-013-30971) NENE, Sec. 13, T3S-R5W



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<b>Disposal Facilities</b>
3. RN Industries, Inc. – Bluebell Disposal Ponds, Sec. 2, 4 & 9, T2S-R2W
4. Water Disposal, Inc. – Harmston 1-32-A1 Disposal Well (43-013-30224), UTR #00707, Sec. 32, T1S-R1W
5. Unified Water Pits – Sec. 31, T2S-R4W
6. Iowa Tank Line Pits – 8500 BLM Fence Road, Pleasant Valley
7. Western Water Solutions – Sand Pass Ranch, Sections 9 and 10, T4S-R1W, permit #WD-01-2011

- g. Any salts and/or chemicals, which are an integral part of the drilling system, would be disposed of in the same manner as the drilling fluid.
- h. Any spills of oil, condensate, produced or frac water, drilling fluids, or other potentially deleterious substances would be recovered and either returned to its origin or disposed of at an approved disposal site, most likely in Duchesne, Utah.
- i. Chemicals on the EPA's Consolidated List of Chemicals subject to reporting under Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA) may be used or stored in quantities over reportable quantities. In the course of drilling, BBC could potentially store and use diesel fuel, sand (silica), hydrochloric acid, and CO<sub>2</sub> gas, all described as hazardous substances in 40 CFR Part 302, Section 302.4, in quantities exceeding 10,000 pounds. In addition, natural gas condensate and crude oil and methanol may be stored or used in reportable quantities. Small quantities of retail products (paint/spray paints, solvents {e.g., WD-40}, and lubrication oil) containing non-reportable volumes of hazardous substances may be stored and used on site at any time. No extremely hazardous substances, as defined in 40 CFR 355, would be used, produced, stored, transported or disposed of in association with the drilling, testing or completion of the wells.
- j. Portable toilets and trash containers would be located onsite during drilling and completion operations. A commercial supplier would install and maintain portable toilets and equipment and would be responsible for removing sanitary waste. Sanitary waste facilities (i.e. toilet holding tanks) would be regularly pumped and their contents disposed of at approved sewage disposal facilities in Duchesne, and/or Uintah Counties, in accordance with applicable rules and regulations regarding sewage treatment and disposal. Accumulated trash and nonflammable waste materials would be hauled to an approved landfill once a week or as often as necessary. All debris and waste materials not contained in the trash containers would be cleaned up, removed from the construction ROW, well pad, or worker housing location, and disposed of at an approved landfill. Trash would be cleaned up everyday.
- k. Sanitary waste equipment and trash bins would be removed from the Project Area upon completion of access road or pipeline construction; following drilling and completion operations at an individual well pad; when worker housing is no longer needed; or as required.

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- l. A flare pit may be constructed a minimum of 110' from the wellhead(s) and may be used during completion work. In the event a flare pit proves to be unworkable, a temporary flare stack or open top tank would be installed. BBC would flow back as much fluid and gas as possible into pressurized vessels, separating the fluids from the gas. In some instances, due to the completion fluids utilized within the Project Area, it is not feasible to direct the flow stream from the wellbore through pressurized vessels. In such instances BBC proposes to direct the flow to the open top tanks until flow through the pressurized vessels is feasible. At which point the fluid would either be returned to the reserve pit or placed into a tank(s). The gas would be directed to the flare pit, flare stack (each with a constant source of ignition), or may be directed into the sales pipeline.
- m. Hydrocarbons would be removed from the reserve pit as soon as practical. In the event immediate removal is not practical, the reserve pit would be flagged overhead or covered with wire or plastic mesh to protect migrating birds.

8. Ancillary Facilities:

- a. Garbage containers and portable toilets would be located on the well pad.
- b. On well pads where active drilling and completion is occurring, temporary housing would be provided on location for the well pad supervisor, geologist, tool pusher, and others that are required to be on location at all times. The well pad could include up to five single wide mobile homes or fifth wheel campers/trailers.
- c. A surface powerline corridor 1,927 feet in length is proposed for installation by third-party installer within a 150 foot wide powerline corridor adjacent to the proposed access road. See 12.d below for disturbance estimates. The powerline crosses entirely Ute Tribe surface.

9. Well Site Layout:

- a. The well would be properly identified in accordance with 43 CFR 3162.6.
- b. The pad layout, cross section diagrams and rig layout are enclosed (see Figures 1 and 2).
- c. The pad and road designs are consistent with industry specifications.
- d. The pad has been staked at its maximum size of 400 feet x 300 feet with an inboard reserve pit size of 205 feet x 100 feet x 8 feet deep. See section 12.d below for disturbance estimates.
- e. Within the approved well pad location, a crawler tractor would strip whatever topsoil is present and stockpile it along the edge of the well pad for use during reclamation. Vegetation would be distributed along the sides of the well pad.

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- f. Fill from pit excavation would be stockpiled along the edge of the pit and the adjacent edge of the well pad.
- g. Use of erosion control measures, including proper grading to minimize slopes, diversion terraces and ditches, mulching, terracing, riprap, fiber matting, temporary sediment traps, and broad-based drainage dips or low water crossings would be employed by BBC as necessary and appropriate to minimize erosion and surface runoff during well pad construction and operation. Cut and fill slopes would be constructed such that stability would be maintained for the life of the activity.
- h. All cut and fill slopes would be such that stability can be maintained for the life of the activity.
- i. Diversion ditches would be constructed, if necessary, around the well site to prevent surface waters from entering the well site area.
- j. Water application may be implemented if necessary to minimize the amount of fugitive dust.
- k. All surface disturbing activities would be supervised by a qualified, responsible company representative who is aware of the terms and conditions of the APD and specifications in the approved plans.

10. Plan for Restoration of the Surface:

- a. A site specific reclamation plan would be submitted, if requested, within 90 days of location construction to the surface managing agency.
- b. Site reclamation would be accomplished for portions of the well pad not required for the continued operation of the well on this pad within six months of completion, weather permitting.
- c. The operator would control noxious weeds along access road use authorizations and well site by spraying or mechanical removal, according to the Utah Noxious Weed Act and as set forth in the approved surface damage agreements.
- d. Rat and mouse holes would be filled and compacted from bottom to top immediately upon release of the drilling rig from location. Upon well completion, any hydrocarbons in the pit shall be removed in accordance with 43 CFR 3162.7-1. The reserve pit would be allowed to dry prior to the commencement of backfilling work. No attempts would be made to backfill the reserve pit until it is free of standing water. Once dry, the liner would be torn and perforated before backfilling.
- e. The reserve pit and that portion of the location not needed for production facilities/operations would be recontoured to the approximate natural contours.



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Areas not used for production purposes would be backfilled and blended into the surrounding terrain, reseeded and erosion control measures installed. Mulching, erosion control measures and fertilization may be required to achieve acceptable stabilization. Back slopes and fore slopes would be reduced as practical and scarified with the contour. The reserved topsoil would be evenly distributed over the slopes and scarified along the contour. Slopes would be seeded with the Ute Tribe specified seed mix.

- f. Topsoil salvaged from the drill site and stored for more than one year would be placed at the location indicated on the well site layout drawing and graded to a depth optimum to maintain topsoil viability, seeded with the Ute Tribe prescribed seed mixture and covered with mulch for protection from wind and water erosion and to discourage the invasion of weeds.

11. Surface and Mineral Ownership:

- a. Surface ownership - Ute Indian Tribe - 988 South 7500 East; Ft. Duchesne, Utah 84026; 435-725-4982.
- b. Mineral ownership – Ute Indian Tribe - 988 South 7500 East; Ft. Duchesne, Utah 84026; 435-725-4982.

12. Other Information:

- a. Montgomery Archeological Consultants has conducted a Class III archeological survey. A copy of the report has been submitted under separate cover to the appropriate agencies by Montgomery as report 11-177 dated June 27, 2011.
- b. BBC would require that their personnel, contractors, and subcontractors to comply with Federal regulations intended to protect archeological and cultural resources.
- c. Project personnel and contractors would be educated on and subject to the following requirements:
  - No dogs or firearms within the Project Area.
  - No littering within the Project Area.
  - Smoking within the Project Area would only be allowed in off-operator active locations or in specifically designated smoking areas. All cigarette butts would be placed in appropriate containers and not thrown on the ground or out windows of vehicles; personnel and contractors would abide by all fire restriction orders.
  - Campfires or uncontained fires of any kind would be prohibited.
  - Portable generators used in the Project Area would have spark arrestors.

Bill Barrett Corporation  
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Duchesne County, UT

d. Disturbance estimates:

**Approximate Acreage Disturbances**

Well Pad		3.616	acres
Access	1,901 feet	1.194	acres
Pipeline	1,775 feet	1.205	acres
Powerline	1,927 feet	6.057	acres
<b>Total</b>		<b>12.072</b>	<b>acres</b>

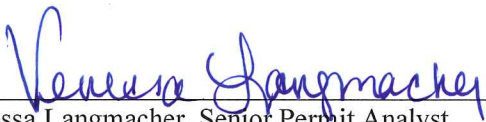
Bill Barrett Corporation  
Surface Use Plan  
16-13D-45 & 13H-13-45 BTR Pad  
Duchesne County, UT

OPERATOR CERTIFICATION

Certification:

I hereby certify that I, or someone under my direction supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions which currently exist; that I have full knowledge of state and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein would be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application and that bond coverage is provided under Bill Barrett Corporations federal nationwide bond. These statements are subject to the provisions of 18 U.S.C. 1001 for the filings of false statements.

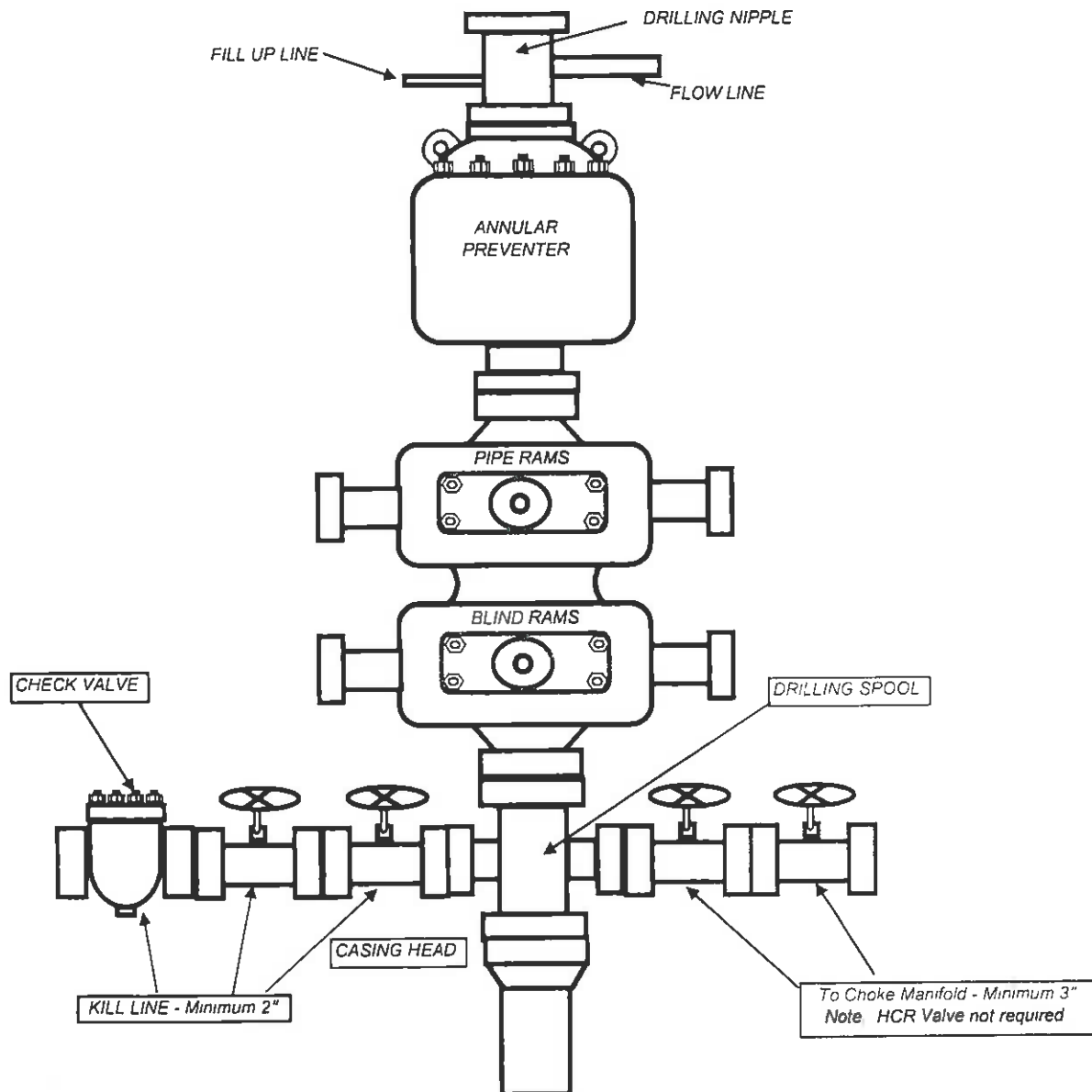
Executed this 21<sup>st</sup> day of June 2012  
Name: Venessa Langmacher  
Position Title: Senior Permit Analyst  
Address: 1099 18<sup>th</sup> Street, Suite 2300, Denver, CO 80202  
Telephone: 303-312-8172  
E-mail: vlangmacher@billbarrettcorp.com  
Field Representative Kary Eldredge / Bill Barrett Corporation  
Address: 1820 W. Highway 40, Roosevelt, UT 84066  
Telephone: 435-725-3515 (office); 435-724-6789 (mobile)  
E-mail: keldredge@billbarrettcorp.com

  
\_\_\_\_\_  
Venessa Langmacher, Senior Permit Analyst



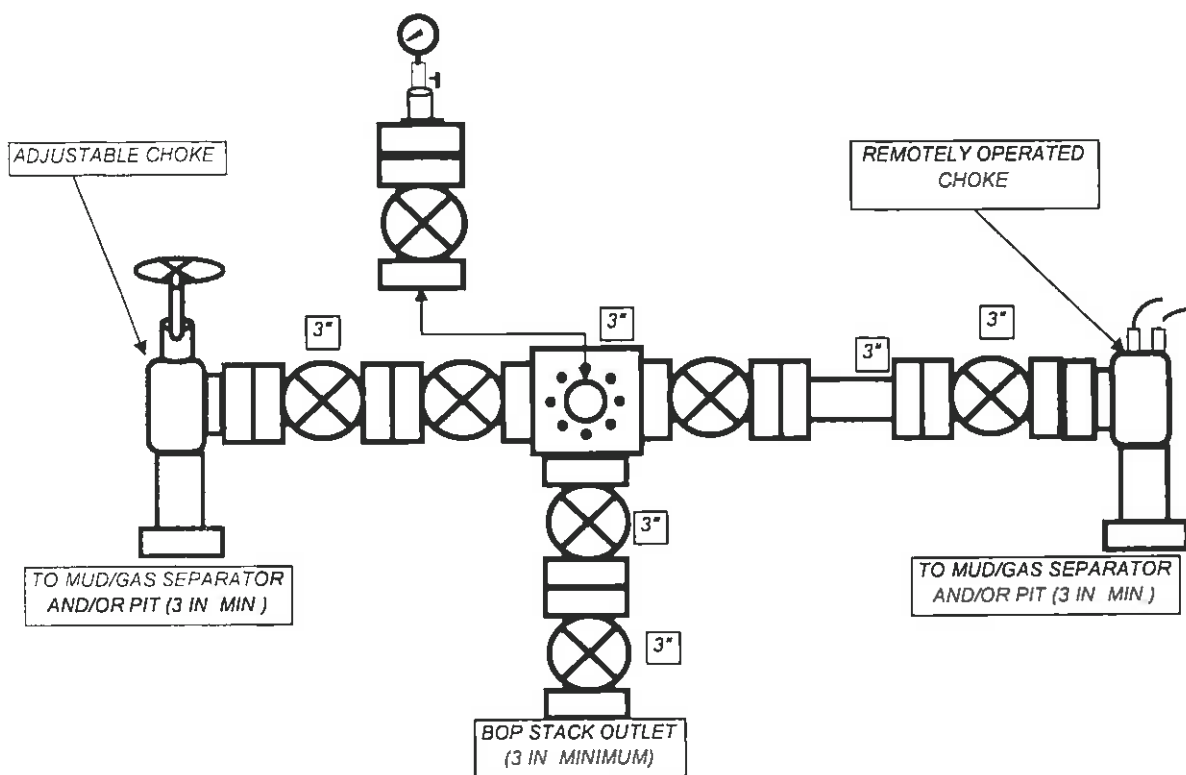
## BILL BARRETT CORPORATION

### TYPICAL 5,000 p.s.i. BLOWOUT PREVENTER



# BILL BARRETT CORPORATION

## TYPICAL 5,000 p.s.i. CHOKE MANIFOLD





July 3, 2012

Ms. Diana Mason – Petroleum Technician  
**STATE OF UTAH DIVISION OF OIL, GAS AND MINING**  
1594 West North Temple, Suite 1210  
P. O. Box 145801  
Salt Lake City, Utah 84114-5801

Re: **Exception Location - #13H-13-45 BTR – Blacktail Ridge Area**  
Surface Location: 617' FSL, 854' FEL, SESE, Section 13-T4S-R5W  
Bottom Location: 810' FSL, 700' FWL, SWSW, Section 13-T4S-R5W  
Duchesne County, Utah

Dear Ms. Mason,

Bill Barrett Corporation ("BBC") hereby submits an exception location letter in accordance with Oil & Gas Conservation Order #139-85, requesting an exception well location, supported by the following information:

- The location is within our Blacktail Ridge Area.
- BBC is requesting an exception to Spacing Order #139-85 by drilling multiple well bores from a single well pad where the horizontal wellbore will strictly produce hydrocarbons from the Uteland Butte formation and the other vertical wellbore will produce from formations excluding the Uteland Butte. This well configuration results in the wellbores being closer than the 1,320 feet allowed by spacing order.
- This will allow for a more efficient drainage of the reservoir formation being targeted.
- The exception location is due to topography requirements and to minimize surface disturbance.
- BBC certifies that it is the working interest owner along with Ute Energy, LLC (who also consent to this exception location request), and together we own 100% of the working interest within 660 feet of the proposed well location.
- Our rights are owned under an Exploration and Development Agreement with the Ute Indian Tribe and Ute Distribution Corporation which provides for the drilling of exploratory wells. This agreement provides that we consult with these owners regarding the drilling of this well.

Based on the information provided, BBC requests the Division grant this exception to the locating, siting and spacing requirements of Order #139-85. Should you have any questions or need further information, please contact me at 303-312-8544.

Sincerely,

A handwritten signature in blue ink that reads 'David Watts' with a small 'for' written below it.

David Watts  
Landman  
[dwatts@billbarrettcorp.com](mailto:dwatts@billbarrettcorp.com)

RECEIVED: June 21, 2012



**Bill Barrett Corporation**

June 21, 2012

Ms. Diana Mason, Petroleum Technician  
State of Utah Division of Oil, Gas and Mining  
1594 West North Temple, Suite 1210  
P. O. Box 145801  
Salt Lake City, Utah 84114-5801

**RE: Horizontal Drilling**  
**#13H-13-45 BTR**  
**Section 13, T4S-R5W, U.S.B.&M.**  
**Duchesne County, Utah**

**Surface Hole Location: 617' FSL & 854' FEL, SESE, 13-T4S-R5W, USB&M**  
**Bottom Hole Location: 810' FSL & 700' FWL, SWSW, 13-T4S-R5W, USB&M**

Dear Ms. Mason:

Pursuant to the filing of Bill Barrett Corporation's ("BBC") Application for Permit to Drill ("APD") regarding the above-referenced well, we are hereby submitting this letter in accordance with Oil & Gas Conservation Rule R649-3-2 pertaining to a temporary 640 acre spacing unit for a horizontal well.

- Tribal Exploration and Development Agreement #14-20-H62-5608, which includes all of the subject Section 13 and other lands, allows for the drilling of the #13H-13-45 well.
- Once the well has been completed BBC will earn the tribal lease covering 640 net acres being further described in the Exploration and Development Agreement.
- The #13H-13-45 BTR will be perforated no less than 640 feet from the Section 13 Tribal Lease boundary, in accordance with R649-3-2(3).

Based on the information provided, BBC requests that the permit be granted pursuant to R649-3-2. If you should have any questions or need further information, please contact me at 303-312-8544.

Sincerely,

BILL BARRETT CORPORATION

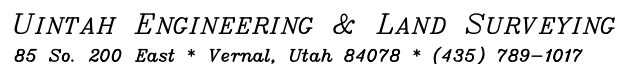
David Watts  
Landman

1099 18<sup>TH</sup> STREET  
SUITE 2300  
DENVER, CO 80202  
P 303.293.9100  
F 303.291.0420



*FIGURE #1*

REV: 03-29-12 J.J.



RECEIVED: June 21, 2012

**BILL BARRETT CORPORATION****TYPICAL CROSS SECTIONS FOR**

#13H-13-45 BTR &amp; #16-13D-45 BTR

SECTION 13, T4S, R5W, U.S.B.&amp;M.

SE 1/4 SE 1/4

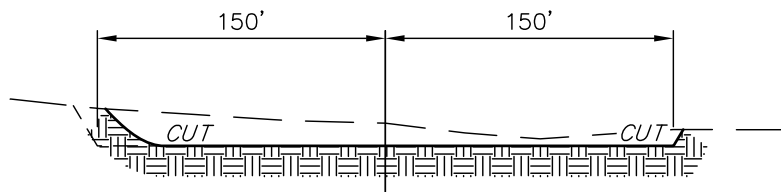
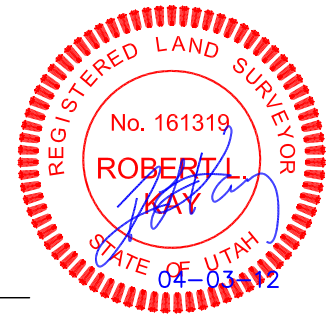
**FIGURE #2**

X-Section  
Scale  
1" = 100'

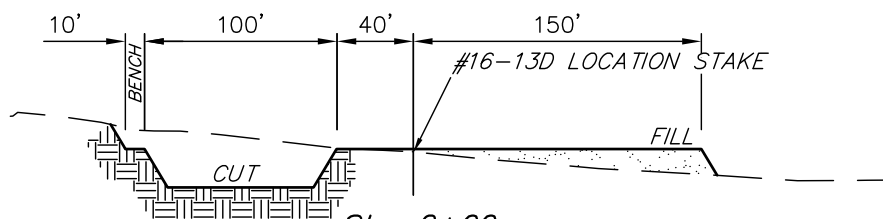
DATE: 05-02-11

DRAWN BY: K.O.

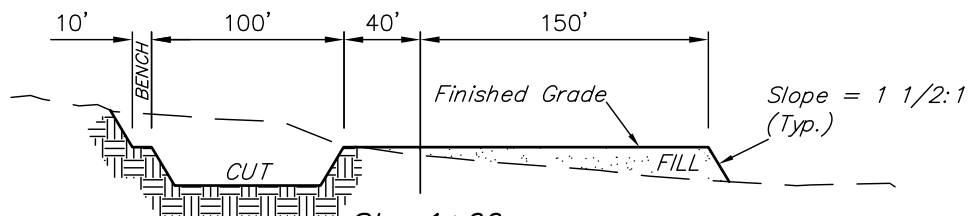
REV: 03-29-12 J.J.



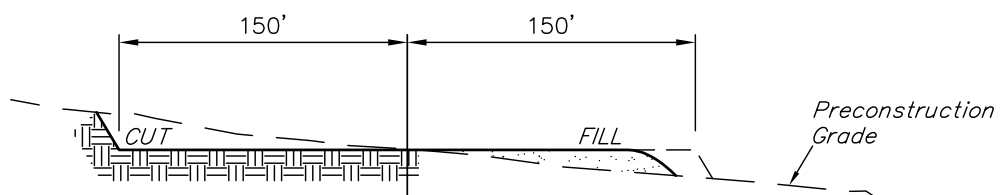
Sta. 4+00



Sta. 2+00



Sta. 1+00



Sta. 0+00

**NOTE:**

Topsoil should not be  
Stripped Below Finished  
Grade on Substructure Area.

**APPROXIMATE ACREAGES**

WELL SITE DISTURBANCE = ± 3.616 ACRES  
ACCESS ROAD DISTURBANCE = ± 1.194 ACRES  
PIPELINE DISTURBANCE = ± 1.205 ACRES  
TOTAL = ± 6.015 ACRES

\* NOTE:  
FILL QUANTITY INCLUDES  
5% FOR COMPACTION

**APPROXIMATE YARDAGES**

(12") Topsoil Stripping = 4,920 Cu. Yds.  
Remaining Location = 11,170 Cu. Yds.  
TOTAL CUT = 16,090 CU. YDS.  
FILL = 8,640 CU. YDS.

EXCESS MATERIAL = 7,450 Cu. Yds.  
Topsoil & Pit Backfill = 7,450 Cu. Yds.  
(1/2 Pit Vol.)  
EXCESS UNBALANCE = 0 Cu. Yds.  
(After Interim Rehabilitation)

UINTAH ENGINEERING & LAND SURVEYING  
85 So. 200 East \* Vernal, Utah 84078 \* (435) 789-1017

RECEIVED: June 21, 2012

**BILL BARRETT CORPORATION****TYPICAL RIG LAYOUT FOR**

#13H-13-45 BTR &amp; #16-13D-45 BTR

SECTION 13, T4S, R5W, U.S.B.&amp;M.

SE 1/4 SE 1/4

**FIGURE #3**

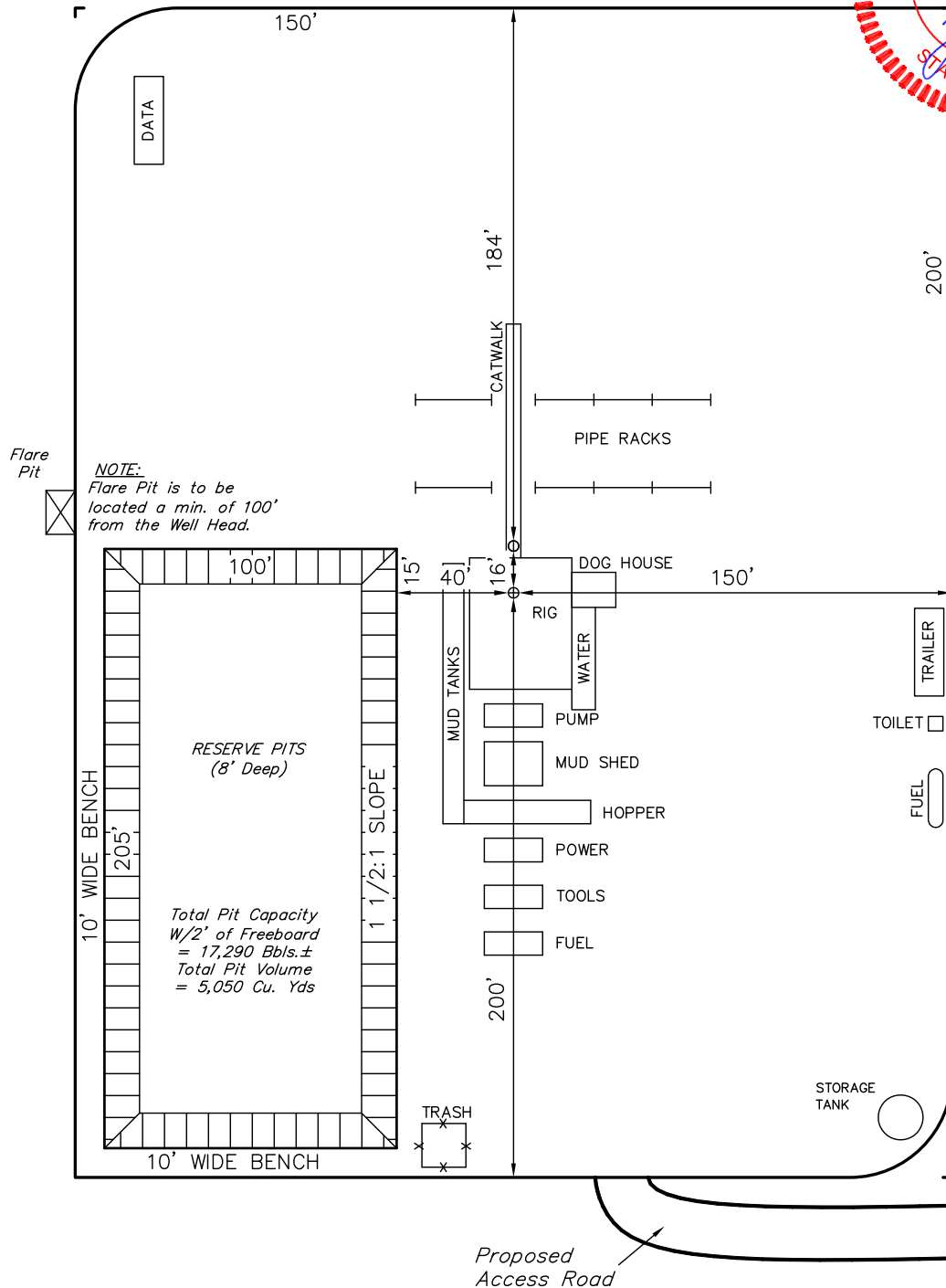
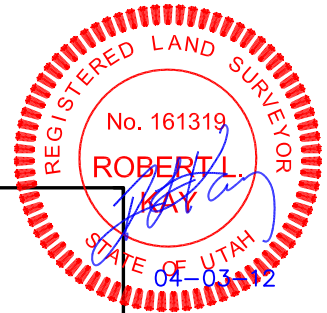
SCALE: 1" = 60'

DATE: 05-02-11

DRAWN BY: K.O.

REV: 02-08-12 J.J.

REV: 03-29-12 J.J.

**UINTAH ENGINEERING & LAND SURVEYING**

85 So. 200 East \* Vernal, Utah 84078 \* (435) 789-1017

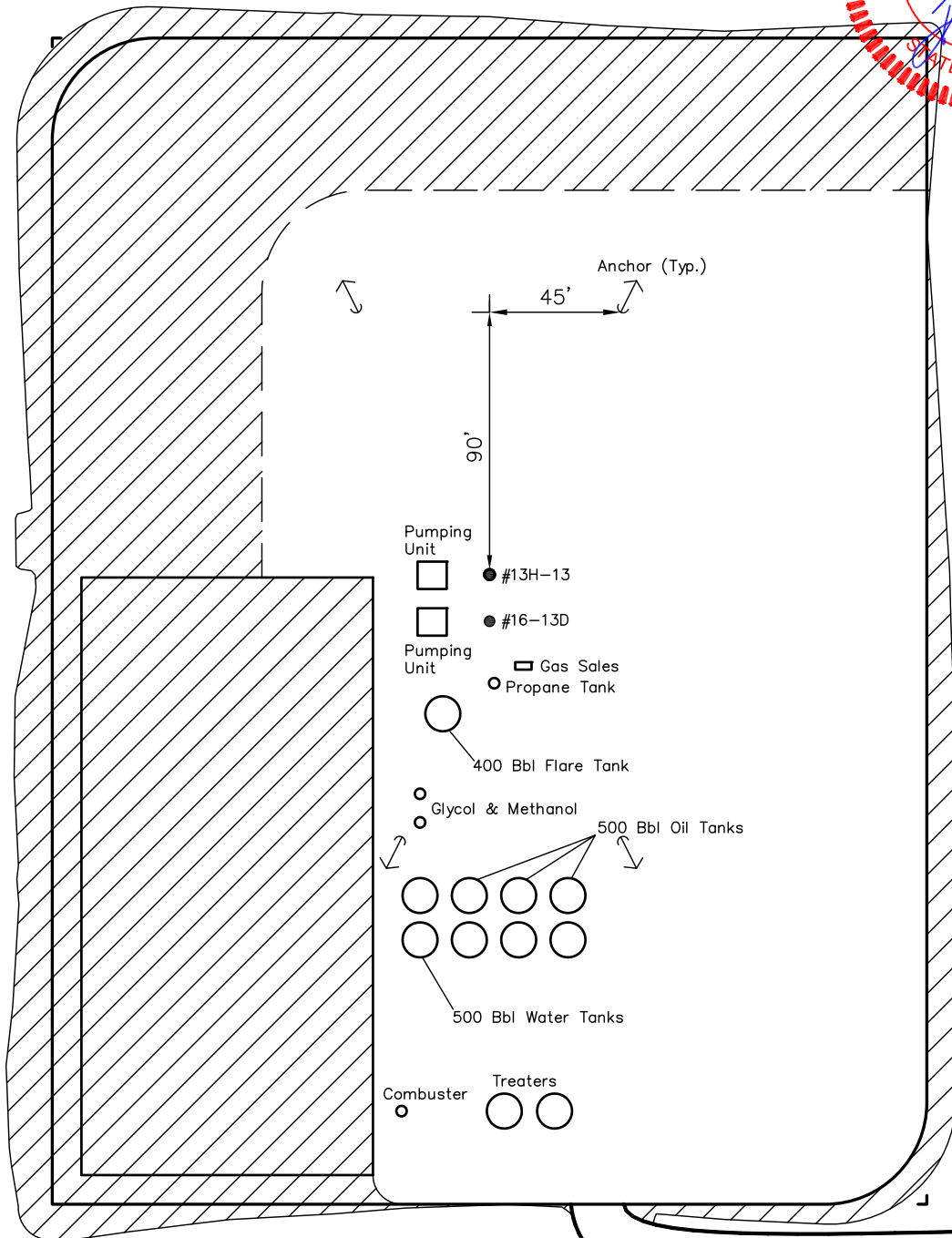
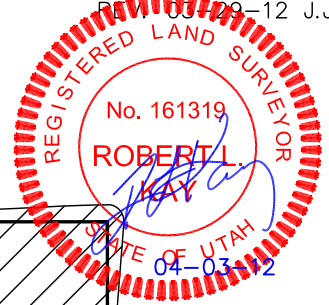
**RECEIVED: June 21, 2012**



**BILL BARRETT CORPORATION**  
**PRODUCTION FACILITY LAYOUT FOR**  
**#13H-13-45 BTR & #16-13D-45 BTR**  
**SECTION 13, T4S, R5W, U.S.B.&M.**  
**SE 1/4 SE 1/4**

**FIGURE #4**

SCALE: 1" = 60'  
 DATE: 01-20-12  
 DRAWN BY: A.W.  
 REV: 02-08-12 J.J.  
 REV: 03-09-12 J.J.



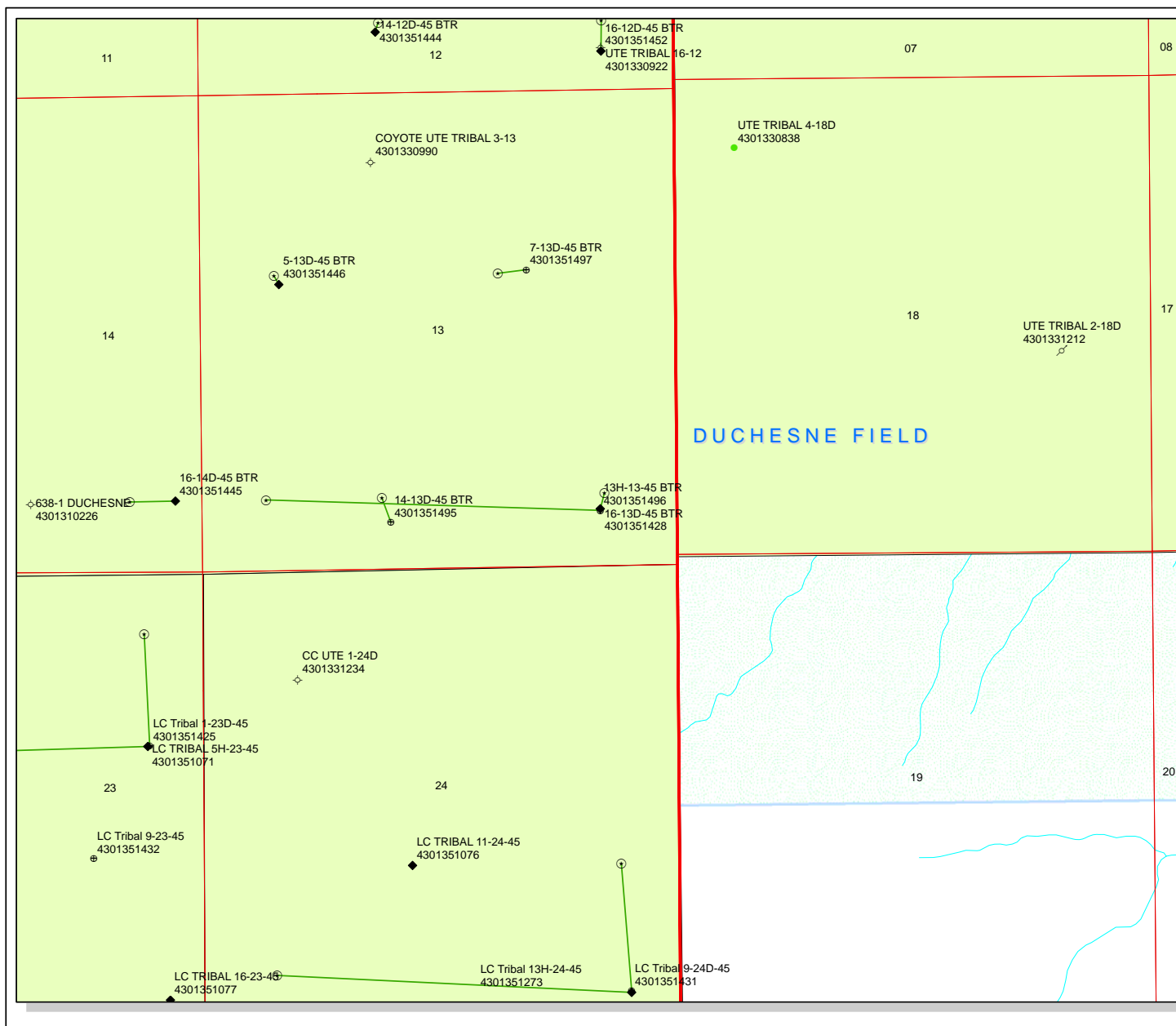
RECLAIMED AREA

APPROXIMATE ACREAGES  
 UN-RECLAIMED = ± 1.621 ACRES

**UINTAH ENGINEERING & LAND SURVEYING**  
 85 So. 200 East \* Vernal, Utah 84078 \* (435) 789-1017

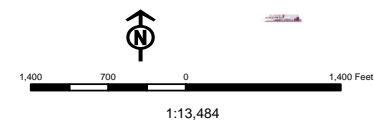
**RECEIVED: June 21, 2012**





**API Number: 4301351496**  
**Well Name: 13H-13-45 BTR**  
**Township T04.0S Range R05.0W Section 13**  
**Meridian: UBM**  
**Operator: BILL BARRETT CORP**  
 Map Prepared:  
 Map Produced by Diana Mason

Units	Wells Query
<b>STATUS</b>	<b>Status</b>
ACTIVE	APD - Approved Permit
EXPLORATORY	DRL - Spudded (Drilling Commenced)
GAS STORAGE	GIW - Gas Injection
NF PP OIL	GS - Gas Storage
NF SECONDARY	LOC - New Location
PI OIL	OPS - Operation Suspended
PP GAS	PA - Plugged Abandoned
PP GEOTHERMAL	PGW - Producing Gas Well
PP OIL	POW - Producing Oil Well
SECONDARY	SGW - Shut-in Gas Well
TERMINATED	SOW - Shut-in Oil Well
<b>Fields</b>	TA - Temp. Abandoned
Unknown	TW - Test Well
ABANDONED	WDW - Water Disposal
ACTIVE	WW - Water Injection Well
COMBINED	WSW - Water Supply Well
INACTIVE	Bottom Hole Location - Oil/Gas/Dib
STORAGE	
TERMINATED	



## WORKSHEET APPLICATION FOR PERMIT TO DRILL

APD RECEIVED: 6/21/2012

API NO. ASSIGNED: 43013514960000

WELL NAME: 13H-13-45 BTR

OPERATOR: BILL BARRETT CORP (N2165)

PHONE NUMBER: 303 312-8172

CONTACT: Venessa Langmacher

PROPOSED LOCATION: SESE 13 040S 050W

Permit Tech Review: ☒

SURFACE: 0617 FSL 0854 FEL

Engineering Review: ☐

BOTTOM: 0810 FSL 0700 FWL

Geology Review: ☒

COUNTY: DUCHESNE

LATITUDE: 40.12773

LONGITUDE: -110.39234

UTM SURF EASTINGS: 551773.00

NORTHINGS: 4442111.00

FIELD NAME: DUCHESNE

LEASE TYPE: 2 - Indian

LEASE NUMBER: 2OG0005608

PROPOSED PRODUCING FORMATION(S): UTELAND BUTTE

SURFACE OWNER: 2 - Indian

COALBED METHANE: NO

## RECEIVED AND/OR REVIEWED:

- ☒ PLAT
- ☒ Bond: INDIAN - LPM8874725
- ☐ Potash
- ☐ Oil Shale 190-5
- ☐ Oil Shale 190-3
- ☐ Oil Shale 190-13
- ☒ Water Permit: 43-180
- ☐ RDCC Review:
- ☐ Fee Surface Agreement
- ☐ Intent to Commingle

Commingle Approved

## LOCATION AND SITING:

- ☐ R649-2-3.
- Unit:
- ☐ R649-3-2. General
- ☒ R649-3-3. Exception
- ☒ Drilling Unit
- Board Cause No: Cause 139-85
- Effective Date: 3/11/2010
- Siting: (4) Producing Grrv-Wstc Wells in Sec Drl Unit
- ☐ R649-3-11. Directional Drill

Comments: Presite Completed

Stipulations: 1 - Exception Location - bhill  
4 - Federal Approval - dmason  
27 - Other - bhill

RECEIVED: July 10, 2012



GARY R. HERBERT  
*Governor*

GREGORY S. BELL  
*Lieutenant Governor*

# State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER  
*Executive Director*

Division of Oil, Gas and Mining

JOHN R. BAZA  
*Division Director*

## Permit To Drill

\*\*\*\*\*

**Well Name:** 13H-13-45 BTR  
**API Well Number:** 43013514960000  
**Lease Number:** 2OG0005608  
**Surface Owner:** INDIAN  
**Approval Date:** 7/10/2012

### Issued to:

BILL BARRETT CORP, 1099 18th Street Ste 2300, Denver, CO 80202

### Authority:

Pursuant to Utah Code Ann. 40-6-1 et seq., and Utah Administrative Code R649-3-1 et seq., the Utah Division of Oil, Gas and Mining issues conditions of approval, and permit to drill the listed well. This permit is issued in accordance with the requirements of Cause 139-85. The expected producing formation or pool is the UTELAND BUTTE Formation(s), completion into any other zones will require filing a Sundry Notice (Form 9). Completion and commingling of more than one pool will require approval in accordance with R649-3-22.

### Duration:

This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date

### Exception Location:

Appropriate information has been submitted to DOGM and administrative approval of the requested exception location is hereby granted.

### General:

Compliance with the requirements of Utah Admin. R. 649-1 et seq., the Oil and Gas Conservation General Rules, and the applicable terms and provisions of the approved Application for permit to drill.

### Conditions of Approval:

State approval of this well does not supercede the required federal approval, which must be obtained prior to drilling.

In accordance with Utah Admin. R.649-3-21, the operator shall submit a complete angular deviation and directional survey report to the Division within 30 days following completion of the well.

### Notification Requirements:

The operator is required to notify the Division of Oil, Gas and Mining of the following actions during drilling of this well:

- Within 24 hours following the spudding of the well - contact Carol Daniels at 801-538-5284

(please leave a voicemail message if not available)

OR

submit an electronic sundry notice (pre-registration required) via the Utah Oil & Gas website

at <http://oilgas.ogm.utah.gov>

### **Reporting Requirements:**

All reports, forms and submittals as required by the Utah Oil and Gas Conservation General Rules will be promptly filed with the Division of Oil, Gas and Mining, including but not limited to:

- Entity Action Form (Form 6) - due within 5 days of spudding the well
- Monthly Status Report (Form 9) - due by 5th day of the following calendar month
- Requests to Change Plans (Form 9) - due prior to implementation
- Written Notice of Emergency Changes (Form 9) - due within 5 days
- Notice of Operations Suspension or Resumption (Form 9) - due prior to implementation
- Report of Water Encountered (Form 7) - due within 30 days after completion
- Well Completion Report (Form 8) - due within 30 days after completion or plugging

**Approved By:**

A handwritten signature in black ink, appearing to read "John Rogers", written over a horizontal line.

For John Rogers  
Associate Director, Oil & Gas



Mail

More

8 of 69

COMPOSE

Dictionary.com Word of the Day - **pseudepigraphy**: the false ascription of a piece of writing to an author. - 4 days ago

Web Clip

RE: 14-13D-45 BTR

Inbox x

Venessa Langmacher

vlangmacher@billbarrettcorp.com

**Venessa Langmacher**

11:38 AM (4 hours ago)

Diana,

[Show details](#)

Could you please rescind the 13H-13-45?

I will then resubmit the APD for the 14-13D-45.

Sorry about all of this... our plan last year was for horizontals and that's why we returned the 14-13D-45 APD, but moving forward now, horizontals are on hold.

Thanks,

*Venessa Langmacher*  
Senior Permit Analyst

**BILL BARRETT CORPORATION**

1099 18th Street | Suite 2300

Denver, CO 80202

D 303.312.8172 | F 303.291.0420

[vlangmacher@billbarrettcorp.com](mailto:vlangmacher@billbarrettcorp.com)
[www.billbarrett.com](http://www.billbarrett.com)



GARY R. HERBERT  
Governor

GREGORY S. BELL  
Lieutenant Governor

# State of Utah

## DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER  
Executive Director

### Division of Oil, Gas and Mining

JOHN R. BAZA  
Division Director

January 16, 2013

Venessa Langmacher  
Bill Barrett Corp.  
1099 18<sup>th</sup> Street Ste. 2300  
Denver, CO 80202

Re: APD Rescinded – 13H-13-45 BTR, Sec. 13, T. 4S, R. 5W  
Duchesne County, Utah API No. 43-013-51496

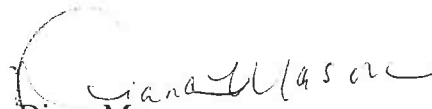
Dear Ms. Langmacher:

The Application for Permit to Drill (APD) for the subject well was approved by the Division of Oil, Gas and Mining (Division) on July 10, 2012. On January 15, 2013, you requested that the APD be rescinded. No drilling activity at this location has been reported to the division. Therefore, approval to drill the well is hereby rescinded, effective January 15, 2013.

A new APD must be filed with this office for approval prior to the commencement of any future work on the subject location.

If any previously unreported operations have been performed on this well location, it is imperative that you notify the Division immediately.

Sincerely,

  
Diana Mason  
Environmental Scientist

cc: Well File  
Bureau of Land Management, Vernal



## United States Department of the Interior

### BUREAU OF LAND MANAGEMENT

Green River District  
Vernal Field Office  
170 South 500 East  
Vernal, UT 84078

<http://www.blm.gov/ut/st/en/fo/vernal.html>



February 8, 2013

IN REPLY REFER TO:  
3160 (UTG011)

Venessa Langmacher  
Bill Barrett Corporation  
1099 18<sup>th</sup> Street, Suite 2300  
Denver, CO 80202

43 013 51496

Re: Request to Return APD  
13H-13-45 BTR  
SESE, Sec. 13, T4S, R5W  
Duchesne County, Utah  
Lease No. 2OG0005608

Dear Venessa:

The Application for Permit to Drill (APD) for the above referenced well received in this office on June 22, 2012, is being returned unapproved per your request to this office in an email message to Legal Instruments Examiner Robin R. Hansen received on February 6, 2013. If you intend to drill at this location at a future date, a new APD must be submitted.

If you have any questions regarding APD processing, please contact Robin R. Hansen at (435) 781-3428.

Sincerely,

/s/ Jerry Kenczka

Jerry Kenczka  
Assistant Field Manager  
Lands & Resource Minerals

Enclosures

cc: UDOGM

bcc: Well File  
ES

**RECEIVED**  
**FEB 22 2013**  
DIV. OF OIL, GAS & MINING